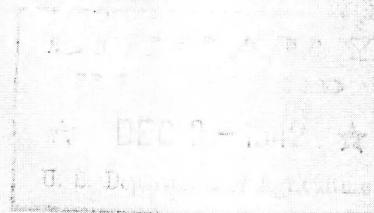


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r.g.a



MUMS
for 1943
Carnations

NOTE—PLEASE

While our equipment and stock for supplying mum cuttings is improved annually as it should be, we strongly urge the importance of PLACING ORDERS EARLY PARTICULARLY THIS SEASON. While we watch the behavior of varieties, especially the newer ones, and the market demands in all parts of the country, it is impossible to accurately anticipate varieties that will be most wanted.

This results in unexpected demands and shortages of some varieties. For this reason, get your mum list in early as you can, bearing in mind that all orders are filled in the rotation received. We will not make exceptions to this rule.

ABOUT PRICES

Due to the sharply increased cost of labor and material and to our determination not to sacrifice quality in any way, a slight price increase has been found necessary for the coming season.

It is our policy to supply your mum cutting needs with such quality and at a price that it will be profitable for you to depend on us for them. Accordingly, price changes EITHER WAY will be made as conditions justify.

We insist on thoro State inspection of all our propagating stock. This enables us to guarantee all stock furnished by us to be clean, free of disease or insects, well rooted, and carefully packed.

GEO. J. BALL, Inc.

INSTRUCTIONS FOR ORDERING

NOTE: When arrangements are made to ship cuttings on open account, it is understood they are sold on strictly 60 days net basis. The close margin under which these cuttings are sold, makes these terms necessary.

Special Discounts for Large Orders: The following discounts, for quantities given, will apply on orders placed **at one time** for the quantity on which discount is taken.

5% discount for an order of 10,000
7 1/2% discount for an order of 25,000
10% discount for an order of 50,000
15% discount for an order of 100,000

VERY IMPORTANT In order to produce cuttings at present prices, the business is run on a very close margin. For this reason we *cannot break bundles* of 25 cuttings as it adds considerable to the cost.

Please note, therefore, following rule will apply on all orders:

If order totals less than 1000, 25 of a variety will be billed at the 100 rate.

When more than 25 of a variety is ordered quantity **MUST BE IN MULTIPLES OF 25**, (meaning 50, 75, or 100).

250 of *one* variety will be billed at the 1000 rate.

PLEASE NOTE If your order should total 900 cuttings (for example: 100 each of 9 varieties at \$3.50, total is \$31.50) while if 1000 are ordered, the thousand rate (\$32.50) would apply. This point should be watched in figuring your order so that you may have advantage of the thousand rate on the entire order. **WATCH THIS.**

If order is wanted C.O.D. be sure to enclose check for *at least 50% of the amount.*

SHIPPING INFORMATION All our stock is propagated at Barberton, Ohio, from where it is shipped by Express COLLECT.

If cuttings are wanted by Parcel Post, add sufficient postage as all prices are figured F.O.B. Barberton, Ohio. Approximate weights of cuttings are as follows: 50 cuttings, 3 lbs.; 100, 5 lbs.; 500, 25 lbs.; 1000, 45 lbs. You can secure the amount of postage necessary from your local Post Office.

MUMS FOR '43

Pictured on our front cover are, from top to bottom, **B l a z i n g Gold**, **Saratoga**, **J u s t r i t e** and **Pink Beauty** as grown by the **Green Mill Gardens** for the **Chicago florists**.

All indications point to an active market next fall for all the good mums in every class that can be produced. Labor is the limiting factor. For this reason an increasing number of growers are taking advantage of the labor saving plan of ordering their cuttings thru us.

Also, labor is reduced and the quality of growth improved by planting well rooted cuttings direct. Having such cuttings ready the day you want to plant these is only possible thru ordering them.

The present situation increases the importance of ordering early. While some less labor is involved in growing pompons, chances are that this will place a premium on the large disbudded ones.

NEW METHOD OF PACKING CUTTINGS

PICTURING OUR NEWLY WORKED OUT METHOD OF PACKING MUM CUTTINGS. The packing will be done at the propagating bench; each row across the bench is a unit of 25 cuttings. These units are taken from the row, and without wrapping as is ordinarily done, are placed in the square compartments noted in the pictured box. Removal of the cuttings direct from the sand to the box, where they rest on damp moss, permits the least possible drying of the roots that sometimes occurs with the ordinary handling method. But the principal value found with this plan is that it allows some air circulation thru the cuttings in transit. When wrapped closely as is ordinarily done, mold or rot might and sometimes does develop. A certain amount of air is vital to any form of plant life and we believe this method will supply it in a way that will place the cuttings in your hands in even better shape than formerly. Less handling of cuttings too, with the new method and that is an advantage. This



method has been thoroly and satisfactorily tested.

Above snapshot was taken with a background of nearly a million clean mum cuttings. They will be planted out for production of cuttings later. Far safer and cleaner than carrying over old stock plants.

THE 1943 NOVELTIES

The following new varieties are only from responsible growers. Such growers will not release a new one that isn't an improvement over an existing kind. We realize that not all new ones make good. This might sometimes be due to a variety not behaving everywhere as it does with the originator, but more often the grower's cultural methods are faulty. An example is the 50 year old variety Bonnaffon that many veteran growers have discarded and taken up numerous times. All the following are improvements, so better try out such types or colors in which you are most interested.

Prices on Cuttings of all Novelties listed on this and following page \$15.00 per 100—\$125.00 per 1000

YODER BROTHERS INTRODUCTIONS

NAVAHO

Designed for a cloth house, medium, decorative, red pompon. It blooms normally November 5th. Color is deep crimson; reddish bronze under early shading. Responds well to shading and fills a great need for a cloth house variety in its color range. Growth is strong and uniform. The 2½ inch flowers are well spaced on fine sprays. Stems are dark and hard; foliage is glossy, deep green. Production is very high; keeping and shipping qualities excellent. Equally valuable on raised benches or ground beds. Plant June 1-10. Final pinch July 10-15. C.S.A. Silver Médal at Boston in 1941.

PIXIE

Pixie is a large, well rounded button pompon, 1½ inches in diameter. Its color is deep golden yellow. The normal blooming date is Nov. 10th. Pixie has proven very valuable for early shading. Substance is outstandingly good, making the shipping and keeping qualities excellent. The plant is productive; the flowers are produced on stiff, wiry stems with good spray formations. This variety will respond well under a wide diversity of cultures.

Plant June 5-10. Final pinch July 10-15.

ENCHANTRESS

Enchantress is a beautiful deep pink anemone. As a disbud its blooms are 6 inches in diameter; as a disbudded spray it reaches 4-5 inches. The cushion develops fast and well, giving the variety a season of Dec. 5th and later, just a few days earlier than that of the well-known variety Dark Pink Supreme. Attains a medium height with uniformly strong stems. Growers of late Chrysanthemums will find Enchantress a useful addition to their list of varieties. Plant June 15-20. Final pinch Aug. 1-5.

SPUN GOLD

This variety has been on trial for several years under extensive plantings. It ranks among the highest producing pompons we know of. Spun Gold is a large decorative pompon; deep lemon yellow in color. It blooms Dec. 15th and later. Because of good substance it ships and keeps well. The stem is medium and strong. The flowers are well spaced on rigid sprays. Spun Gold has proven equally dependable under raised bench or ground bed culture. We believe it to be another bread-and-butter variety in the same late group as Snow.

Plant June 15-20. Final pinch Aug. 5-10.

CARILLON

Carillon is a beautifully formed pink spray single. The color is a brilliant Valencia pink. Its season, Dec. 20 and later, further adds to the rapidly growing list of valuable late varieties. Form and substance are good with the flowers spaced well on rigid sprays. Growth is fast, unusually free with no blind or vegetative tendencies. Production on Carillon is extremely high and uniform. It is versatile enough to stand relatively late planting if necessary on either raised benches or ground beds.

Plant June 20-25. Final pinch Aug. 5-10.

INDIANAPOLIS YELLOW

This lemon yellow sport from Indianapolis Pink is another valuable addition to the very popular Indianapolis family. We think this is the best yellow mum for its specific flowering date.

GOLDEN JANE

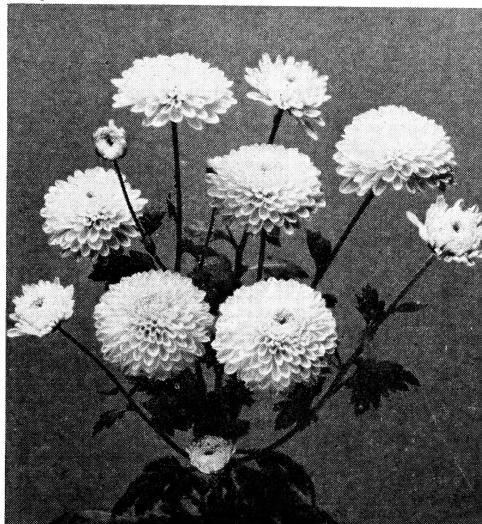
A brilliant golden intensification of the original buff bronze Jane. Much brighter and more vivid in color.

Yoder Brothers Introductions—Cont.
APRICOT VALENCIA

An entirely new and beautiful deep apricot buff sport from Dark Pink Valencia. Ranks apricot bronze as Valencia ranks pink.

RED VALENCIA

A sport from Valencia with a very versatile new color. It is a soft, pleasing tint of Brazil red.

V. R. DePETRIS INTRODUCTIONS**GOLDEN SURPRISE**

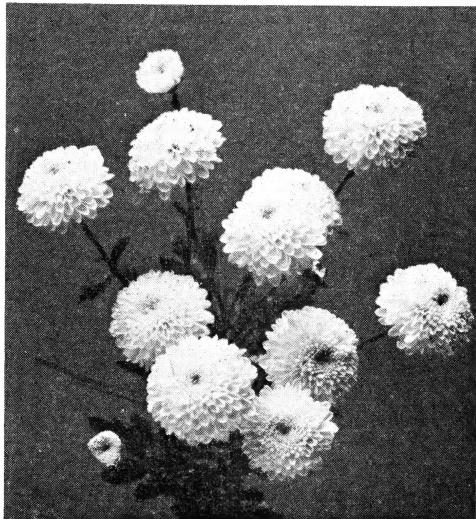
A bright sulphur yellow pompon shading to golden yellow. Blooms on well formed sprays with rigid pedicels. The variety is of extremely easy culture, and possesses excellent glossy green foliage which is disease resistant. Will give very good production of attractive blooms having good form and substance. Matures November 20th to 25th when yellow pompons are in great demand.

CASSANDRA

A medium sized pompon having a fully rounded form and excellent substance. Strong stems carrying rigid well formed sprays. Foliage medium size and healthy. Produces bright orange bronze blooms with a crispy substance. The color does not fade or go dull as the flower matures. This variety bunches well and is a good shipper. It responds well to shading and is an excellent variety for cloth-house. Will produce an early crop of flowers without fading. Matures normally November 5th to 10th. Cassandra produces an average number of high quality blooms which do not shatter and requires the same cultural treatment as the varieties Mrs. Bulkeley and Rev. Bushnell.

BRISTOL NURSERIES INTRODUCTIONS
GOLD IMPERIAL

A quality Pompon ready to cut about Nov. 10th. The large, perfectly-formed golden-yellow blossoms show a deeper yellow-orange center—a touch of distinction the market welcomes. The plant of a vigorous upright habit, foliage clean and healthy, good branching sprays, substance and keeping qualities excellent in every respect.

V. R. DePETRIS INTRODUCTIONS**SEAFOAM**

Pure white large pompon having a full center and well rounded form. The blooms are produced on rigid and well spaced sprays. A free and easy grower with an unusually high production. Responds well to shading and well suited to cloth-house culture. Blooms November 20th to 25th. This variety produces freely high quality white pompons at a period when they are badly needed.

ANACONDA

A large flowered commercial incurved possessing excellent substance and color. It is a free and easy grower with vigorous habit and resistance to disease. Forms clean strong medium tall stems with beautiful dark green medium sized foliage. Produces large blooms uniformly from any bud. Flowers do not shatter or bruise easily from shipping or handling. The color is deep coppery red with golden bronze reverse, a shade very similar to the old variety David Roy. Date of maturity November 10th to November 15th. This variety will appeal to both the retailer and to the grower. It will produce two good blooms to the plant with unusual uniformity. When shaded for early October flowering the color is a rich golden copper.

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Large Flowering Commercial Varieties

In this catalog is a duplication of names as follows:

December Glory—A large mum.

December Glory—A pompon.

When this variety is ordered, kindly specify clearly which is intended.

NOTE

When variety **Gladys Pearson** is ordered, original stock will be shipped.

When **Dark Bronze Gladys Pearson** is requested, Oak Leaf will be shipped.

Under Hardy Chrysanthemums we have listed variety
"Amelia." This is identical with variety "Pink Cushion."

X—Extra good or generally accepted best varieties.

S—Indicates varieties we find most suitable for shading.

P—Indicates varieties suitable for Pot Plants.

*****—Indicates varieties most resistant to Verticillium blight.

NOTE CAREFULLY INSTRUCTIONS FOR ORDERING ON PAGE TWO

YELLOW

Name and Description	Height	Select Bud	Matures	Price per	
				100	1000
XP Gold Lode. Golden yellow.....	Med.	Aug. 25	Oct. 1	\$3.50	\$32.50
Golden October. Rich golden yellow. Semi-in- curved	Med.	Aug. 25	Oct. 10	3.50	32.50
XP Celestra. Bright yellow	Med.	Ter. Bud	Oct. 15	3.50	32.50
XSP*Mrs. H. E. Kidder. Bright yellow.....	Med.	Aug. 25	Oct. 20	3.50	32.50
X Yellow Ambassador. Yellow. Sport from Am- bassador	Med.	Ter. Bud	Oct. 23	3.50	32.50
XS Blazing Gold. Golden yellow.....	Med.	Ter. Bud	Oct. 25	3.50	32.50
XSP*Sun glow. Yellow	Med.	Aug. 25	Oct. 25	3.50	32.50
XS*Mrs. H. E. Kidder. Bright yellow.....	Med.	Ter. Bud	Oct. 25	3.50	32.50
X Yellow Ambassador. Yellow. Sport from Am- bassador	Med.	Ter. Bud	Oct. 25	3.50	32.50
XS Blazing Gold. Golden yellow.....	Med.	Ter. Bud	Oct. 25	3.50	32.50
XS*Good News. Yellow. Sport from Detroit News.	Med.	Aug. 30	Nov. 1	3.50	32.50
XP Cardonia. Deep rich yellow.....	Med.	Sept. 5	Nov. 10	3.50	32.50
XS Penrod. Golden yellow. Incurved.....	Med.	Ter. Bud	Nov. 10	8.00	75.00
X Whittier. Yellow	Med.	Sept. 15	Nov. 13	3.50	32.50
X*Yellow Monument. Yellow. Sport from Monu- ment	Med.	Sept. 10	Nov. 15	3.50	32.50
XP*Honey Dew. Yellow.....	Short	Ter. Bud	Nov. 15	3.50	32.50
Jubilee. Clear Bonnaffon yellow.....	Short	Ter. Bud	Nov. 15	3.50	32.50
XS*Yellow Mefo. Yellow. Sport from Mefo.....	Med.	Sept. 20	Nov. 20	3.50	32.50
Friendly Call. Buff yellow. Incurved.....	Tall	Ter. Bud	Nov. 20	3.50	32.50
XP*Friendly Rival. Large golden yellow.....	Med.	Sept. 10	Nov. 20	3.50	32.50
Major Bonnaffon. Light lemon yellow. Incurved	Short	Sept. 10	Nov. 20	3.50	32.50
X Marie de Petris. Yellow.....	Short	Sept. 15	Nov. 23	3.50	32.50
XS*Golden Pearson. (Leroy Zang) Yellow. Sport from Gladys Pearson.....	Med.	Sept. 30	Nov. 25	3.50	32.50
XP*Sun Gold. Yellow.....	Med.	Sept. 30	Nov. 25	3.50	32.50
Gloria. Lemon yellow. Incurved.....	Med.	Ter. Bud	Nov. 25	12.00	100.00
Golden Chadwick. Yellow.....	Med.	Ter. Bud	Nov. 25	3.50	32.50
X*Improved Yellow Chattanooga. Light yellow.....	Med.	Sept. 20	Nov. 25	3.50	32.50
P R. M. Calkins. Golden yellow.....	Med.	Sept. 20	Nov. 30	3.50	32.50
X Golden Mrs. Ross. Golden yellow. (Improved Nellie T. Ross.)	Tall	Ter. Bud	Dec. 3	3.50	32.50
X Golden Mistletoe. Yellow.....	Med.	Sept. 30	Dec. 10	3.50	32.50
X Meteore. Lemon yellow. Incurved.....	Med.	Ter. Bud	Dec. 10	6.00	50.00
X Improved Tobin's Late Yellow. Deep yellow. Sport from Tobin's Late Yellow.....	Short	Sept. 30	Dec. 15	3.50	32.50

Large Flowering Commercial Varieties (Continued)

WHITE

Name and Description	Height	Select Bud	Matures	Price per 100	Price per 1000
Smith's Early White. White.....	Tall	Aug. 10	Oct. 5	3.50	32.50
XP Quaker Maid. White.....	Med.	Aug. 25	Oct. 15	3.50	32.50
XS*Silver Sheen. Standard early white.....	Med.	Aug. 30	Oct. 18	3.50	32.50
XP Ambassador. Large long stemmed white.....	Med.	Ter. Bud	Oct. 23	3.50	32.50
XS Albatross. Pure white.....	Med.	Ter. Bud	Nov. 1	3.50	32.50
XS*Snow White. White.....	Med.	Ter. Bud	Nov. 1	3.50	32.50
XS*Betsy Ross. Finely shaped white.....	Tall	Aug. 25	Nov. 1	3.50	32.50
X Chas. W. Johnson. A standard white.....	Med.	Sept. 10	Nov. 5	3.50	32.50
XS Indianapolis White. Incurved.....	Med.	Ter. Bud	Nov. 8	4.50	40.00
Jean Elizabeth. Creamy white.....	Med.	Ter. Bud	Nov. 15	4.50	40.00
X*Monument. White	Med.	Sept. 10	Nov. 15	3.50	32.50
XS Marketeer. Finest late white.....	Med.	Ter. Bud	Nov. 18	3.50	32.50
XS* Mefo. White	Med.	Sept. 20	Nov. 20	3.50	32.50
P White Frick. White. Sport from Helen Frick.....	Short	Sept. 10	Nov. 25	3.50	32.50
X*Chattanooga. White	Med.	Sept. 20	Nov. 25	3.50	32.50
X White Chadwick. White.....	Med.	Ter. Bud	Nov. 25	3.50	32.50
X December Glory. White.....	Tall	Sept. 30	Dec. 1	3.50	32.50
December White. Incurved.....	Med.	Ter. Bud	Dec. 5	12.00	100.00
*Improved December Beauty. Pure white. Sport from December Beauty.....	Med.	Oct. 1	Dec. 8	3.50	32.50
X White Mistletoe. White.....	Med.	Sept. 30	Dec. 10	3.50	32.50
XP Smith's Late White. White.....	Short	Sept. 30	Dec. 15	3.50	32.50

BRONZE & RED

P Bronze Lode. Light bronze. Sport from Gold Lode	Med.	Aug. 25	Oct. 1	3.50	32.50
XS*Indianola. Light bronze.....	Med.	Aug. 25	Oct. 10	3.50	32.50
Mongol. Golden bronze. Incurved.....	Med.	Ter. Bud	Oct. 20	12.00	100.00
XSP*Hilda Bergen. Bronze.....	Med.	Aug. 25	Oct. 25	3.50	32.50
XS Cambria. Golden bronze. Incurved.....	Med.	Ter. Bud	Oct. 25	8.00	75.00
Alameda. Reddish bronze with buff reverse. Incurved	Short	Ter. Bud	Oct. 25	4.50	40.00
XSP Glitters. Bright bronze.....	Med.	Ter. Bud	Oct. 28	3.50	32.50
XP Apricot Queen. Orange bronze.....	Short	Sept. 5	Nov. 1	3.50	32.50
XS*Detroit News. Finest early bronze.....	Med.	Aug. 30	Nov. 1	3.50	32.50
XS Indianapolis Bronze. Buff bronze suffused with pink. Incurved	Med.	Ter. Bud	Nov. 8	3.50	32.50
XS*Mrs. David F. Roy. Crimson with bronze reverse. Indian Chief. Deep reddish bronze; golden buff reverse	Short	Sept. 15	Nov. 10	3.50	32.50
Mrs. A. J. Stahelin. Bronze with reverse petals, yellow	Med.	Sept. 5	Nov. 10	3.50	32.50
XP Garnet King. Deep, bright red.....	Med.	Ter. Bud	Nov. 15	3.50	32.50
X*Gladys Pearson. Good light bronze.....	Med.	Sept. 20	Nov. 18	3.50	32.50
X*Oak Leaf. Dark bronze.....	Med.	Sept. 30	Nov. 25	3.50	32.50
XP Bronze Frick. Bronze. Sport from Helen Frick....	Short	Sept. 10	Nov. 25	3.50	32.50
P Harvard. Crimson	Med.	Sept. 30	Nov. 30	3.50	32.50
X Mohawk Chief. Crimson.....	Med.	Oct. 1	Nov. 30	3.50	32.50
X Bronze Mistletoe. Bronze.....	Med.	Sept. 30	Dec. 10	3.50	32.50

PINK

Lustre. Pink	Short	Aug. 25	Oct. 10	3.50	32.50
Early October. Light lavender. Semi-incurved	Med.	Ter. Bud	Oct. 10	12.00	100.00
XS Pink Chief. Pink.....	Tall	Ter. Bud	Oct. 15	3.50	32.50
SP Justrite. Pink	Short	Ter. Bud	Oct. 15	3.50	32.50
XS Rose Glory. Pink.....	Med.	Ter. Bud	Oct. 20	3.50	32.50
Major Ed. Bowes. Pink. Medium length stem.....	Med.	Aug. 30	Oct. 20	3.50	32.50
X October Rose. Pink.....	Med.	Sept. 5	Oct. 20	3.50	32.50
X Rosabella. Rose pink. Incurved.....	Med.	Ter. Bud	Oct. 25	3.50	32.50
XS Roseum. Deep lavender. Incurved.....	Med.	Ter. Bud	Nov. 1	6.00	50.00
XSP*J. W. Prince. (Improved Chieftain) Light pink.	Short	Aug. 30	Nov. 5	3.50	32.50

Large Flowering Commercial Varieties

PINK (Continued)

Name and Description	Height	Select Bud	Matures	Price per 100	Price per 1000
XS Indianapolis Pink. Excellent light lavender. Darker reverse	Med.	Ter. Bud	Nov. 8	3.50	32.50
S Orchid Queen . Orchid pink.....	Med.	Ter. Bud	Nov. 12	3.50	32.50
X Dr. Enguehard . Rose pink.....	Med.	Sept. 5	Nov. 20	3.50	32.50
XP Peter John . Light pink. Sport from Thanksgiving Pink	Short	Sept. 15	Nov. 23	3.50	32.50
XP Thanksgiving Pink. Dark pink.....	Short	Sept. 15	Nov. 23	3.50	32.50
XP Distinction . Pink	Med.	Ter. Bud	Nov. 25	3.50	32.50
XP Helen Frick . Pink	Short	Sept. 10	Nov. 25	3.50	32.50
X Edwin Seidewitz . Bright pink.....	Tall	Sept. 15	Nov. 30	3.50	32.50
X Pink Mistletoe . Pink.....	Med.	Sept. 30	Dec. 10	3.50	32.50

Exhibition Varieties

YELLOW

Name and Description	Height	Select Bud	Matures	Price per 100	Price per 1000
X Yellow Turner . Yellow.....	Med.	Aug. 25	Nov. 5	6.00	50.00
X Yellow Pockett . Yellow.....	Med.	Aug. 15	Nov. 8	8.00	75.00

WHITE

X William Turner . White.....	Med.	Aug. 25	Nov. 5	6.00	50.00
X Louisa Pockett . White.....	Med.	Aug. 15	Nov. 8	8.00	75.00

BRONZE & RED

X Grace Sturgis . Wine red with pinkish-silver reverse	Tall	Aug. 25	Nov. 1	6.00	50.00
X Bronze Turner . Light bronze.....	Med.	Aug. 25	Nov. 5	6.00	50.00

PINK

X Pink Turner . (Mrs. Leslie Davis) Pink.....	Med.	Aug. 25	Nov. 5	6.00	50.00
Dark Pink Thos. Pockett . Lavender.....	Med.	Aug. 15	Nov. 8	8.00	75.00

Odd Formed--Feathery and Threadlike-- Varieties

Name and Description	Height	Select Bud	Matures	Price per 100	Price per 1000
Kay Tashima. White.....	Med.	Ter. Bud	Nov. 1	6.00	50.00
X Ohkwan. Yellow	Med.	Ter. Bud	Nov. 1	6.00	50.00
X Peggy Ann Hoover. Quilled lavender.....	Short	Ter. Bud	Nov. 5	6.00	50.00
Mamoru. Orange bronze.....	Med.	Ter. Bud	Nov. 5	6.00	50.00
Silver Drops. White	Short	Ter. Bud	Nov. 10	6.00	50.00
X Yomei. Golden tube petals with red spoon end tips	Med.	Ter. Bud	Nov. 10	6.00	50.00
X Unique. Rich wine red.....	Tall	Ter. Bud	Dec. 1	6.00	50.00

Pompons, Single and Anemone Varieties

Types are abbreviated as follows: Pomp.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone.

Size of flower is indicated by S.—Small; Int.—Intermediate; L.—Large.

X—Extra good or generally accepted best varieties.

S—Indicates varieties we find most suitable for shading.

P—Indicates varieties suitable for Pot Plants.

D—Indicates smaller flowered varieties most suitable for growing as disbudded pompons.

*—Indicates varieties most resistant to *Verticillium* blight.

NOTE CAREFULLY INSTRUCTIONS FOR ORDERING ON PAGE TWO

YELLOW

Name and Description	Height	Size & Type	Matures	Price per 100	Price per 1000
XS* Yellow Irene. Light lemon yellow. Sport from Irene	Short	S. Pomp.	Oct. 18	3.50	32.50
XSP*Rodell Improved. Yellow. Sport from Rodell....	Short	Int. Pomp.	Oct. 20	3.50	32.50
XS Gold Finch. Yellow.....	Med.	Int. Pomp.	Oct. 20	3.50	32.50
XS Yellow Hammer. Golden yellow.....	Med.	Int. Pomp.	Oct. 20	12.00	100.00
XS*Golden Spray. Yellow.....	Med.	Int. Pomp.	Oct. 23	3.50	32.50
XSPD Golden Herald. Large extra deep golden yellow	Med.	L. Dec.	Oct. 25	3.50	32.50
Cora Peck Buhl. Yellow.....	Tall	Int. Pomp.	Oct. 25	3.50	32.50
XS*Yellow Dot. (Jablonsky) Yellow; reddish center	Med.	Int. Pomp.	Oct. 25	3.50	32.50
XS Yellow Arcadia. Pernet yellow.....	Med.	Int. Pomp.	Oct. 28	4.50	40.00
XS*Yellow Daisy. Deep lemon yellow.....	Med.	Int. Sgl.	Nov. 1	3.50	32.50
XSD Mary Lennon Hall. Clear rich yellow.....	Tall	Int. Pomp.	Nov. 1	3.50	32.50
XD*Yellow Sea Gull. Yellow. Sport from Sea Gull	Tall	Int. Pomp.	Nov. 1	3.50	32.50
D*Yellow Doty. Yellow.....	Med.	L. Pomp.	Nov. 1	3.50	32.50
XS Gretchen Piper. Lemon yellow.....	Med.	Int. Sgl.	Nov. 1	3.50	32.50
XD Yellow Blanche. Lemon yellow.....	Med.	Int. Anem.	Nov. 1	3.50	32.50
XSP*Nuggets. Best early yellow.....	Short	S. Pomp.	Nov. 5	3.50	32.50
XS Yellow Bushnell. Pernet yellow.....	Tall	Int. Pomp.	Nov. 8	4.50	40.00
X Derigold. Lemon yellow.....	Med.	Int. Pomp.	Nov. 10	3.50	32.50
XD Golden Mensa. Pale lemon yellow.....	Med.	Int. Sgl.	Nov. 10	3.50	32.50
XSD Helios. Deep yellow.....	Med.	L. Anem.	Nov. 10	3.50	32.50
XS Yellow New York. Yellow.....	Med.	S. Pomp.	Nov. 13	3.50	32.50
XSP*Yellow Fellow. Yellow.....	Med.	Int. Dec.	Nov. 15	3.50	32.50
XD*Sunny Boy. Yellow	Med.	Int. Sgl.	Nov. 15	3.50	32.50
X*Sunray. Yellow	Med.	Int. Anem.	Nov. 15	3.50	32.50
XP Lois. Golden yellow.....	Med.	S. Pomp.	Nov. 18	3.50	32.50
XSD*Susanne Miller. Buff yellow.....	Tall	L. Anem.	Nov. 18	3.50	32.50
X*Hasegawa Gold. Large golden yellow.....	Med.	Int. Pomp.	Nov. 23	3.50	32.50
XPD Yellow Rolinda. Light buff yellow.....	Med.	Int. Anem.	Nov. 23	3.50	32.50
XD Goldsmith. Golden yellow.....	Med.	Int. Dec.	Nov. 25	4.50	40.00
X Golden Sceptre. Yellow.....	Tall	S. Pomp.	Nov. 25	3.50	32.50
XD Citrus Queen. Lemon orange.....	Med.	L. Anem.	Nov. 25	3.50	32.50
PD Yellow Yuletide. Yellow.....	Short	Int. Pomp.	Nov. 28	3.50	32.50
X*Christmas Gold. Bright yellow.....	Med.	S. Pomp.	Nov. 28	3.50	32.50
X Yellow Cordova. Yellow. Sport from Cordova..	Med.	Int. Dec.	Nov. 30	3.50	32.50
XD*Gold Coin. (Unalga) Yellow.....	Med.	Int. Pomp.	Dec. 1	3.50	32.50
XPD Yuvawn. Yellow	Med.	Int. Pomp.	Dec. 3	3.50	32.50
X Golden Modena. Deep golden yellow. Sport from Modena	Med.	Int. Pomp.	Dec. 5	3.50	32.50
X Fawn. Deep buff yellow.....	Med.	Int. Sgl.	Dec. 5	3.50	32.50
XD Gleam. Deep lemon yellow.....	Med.	L. Anem.	Dec. 5	3.50	32.50
X Yellow Silver Star. Yellow. Sport from Silver Star	Tall	Int. Pomp.	Dec. 10	3.50	32.50

Pompons, Single & Anemone Varieties

YELLOW (Continued)

Name and Description	Height	Size & Type	Matures	Price per 100	Price per 1000
XD Yellow Supreme. Buff yellow. Sport from Pink Supreme	Med.	L. Anem.	Dec. 10	3.50	32.50
X*December Gold. Deep golden yellow.....	Med.	Int. Dec.	Dec. 15	3.50	32.50
X Christmas Cheer. Deep yellow.....	Med.	Int. Pomp.	Dec. 15	3.50	32.50
X Yellow Garza Supreme. Yellow.....	Short	Int. Anem.	Dec. 15	3.50	32.50
X Vibrant. Deep yellow.....	Med.	Int. Dec.	Dec. 20	4.50	40.00
X Winterset. Lemon yellow.....	Med.	Int. Pomp.	Dec. 25	4.50	40.00
X Yellow Snow. Deep lemon yellow.....	Med.	Int. Pomp.	Dec. 30	8.00	75.00

WHITE

*Uvalda. Creamy white.....	Med.	Int. Pomp.	Oct. 10	3.50	32.50
XSP*White Jewell. White suffused with pink.....	Short	S. Pomp.	Oct. 15	3.50	32.50
XSD Silver Ball. White.....	Med.	L. Pomp.	Oct. 15	3.50	32.50
XSP*Irene. White	Short	S. Pomp.	Oct. 18	3.50	32.50
XS*Minong. White	Med.	S. Pomp.	Oct. 20	3.50	32.50
P Silver Bells. White	Med.	S. Pomp.	Oct. 23	3.50	32.50
XS Arcadia. Finest pure white.....	Med.	Int. Pomp.	Oct. 28	3.50	32.50
XPD Graceland. White, yellow center.....	Med.	Int. Anem.	Oct. 28	3.50	32.50
XSD*Sea Gull. White	Tall	Int. Pomp.	Nov. 1	3.50	32.50
XP Mary Pickford. White.....	Short	S. Pomp.	Nov. 1	3.50	32.50
XSD*White Doty. White.....	Med.	L. Pomp.	Nov. 1	3.50	32.50
XS Blanche.	Med.	Int. Anem.	Nov. 1	3.50	32.50
XD*White Anemone. White.....	Tall	Int. Anem.	Nov. 5	3.50	32.50
XS Rev. Horace Bushnell. White.....	Tall	Int. Pomp.	Nov. 8	3.50	32.50
XSD Shasta. White	Med.	Int. Anem.	Nov. 8	3.50	32.50
XS*Crystal Jewell. White.....	Tall	S. Pomp.	Nov. 8	3.50	32.50
Collarette. White with yellow cushion.....	Med.	Int. Anem.	Nov. 8	12.00	100.00
XSD White Mensa. Ivory white.....	Med.	Int. Sgl.	Nov. 10	3.50	32.50
XSPD*Little America. Snow white.....	Med.	Int. Anem.	Nov. 10	3.50	32.50
XS*Nagona. Ivory White.....	Med.	Int. Sgl.	Nov. 10	3.50	32.50
X Chicago Pearl. Finest clear white.....	Med.	Int. Pomp.	Nov. 15	3.50	32.50
XSD White Freida. White with yellow cushion.....	Med.	L. Anem.	Nov. 15	4.50	40.00
*Bobbie. Large creamy white.....	Med.	S. Pomp.	Nov. 18	3.50	32.50
XPD*White Norma. White suffused with pink.....	Tall	L. Anem.	Nov. 18	3.50	32.50
X Pearl. White	Tall	Int. Pomp.	Nov. 20	3.50	32.50
X Early Garza Supreme.	Short	Int. Anem.	Nov. 25	3.50	32.50
XPD White Yuletide	Short	Int. Pomp.	Nov. 28	3.50	32.50
X Cordova. White	Med.	Int. Dec.	Nov. 30	3.50	32.50
*Royal Queen. White.....	Med.	Int. Pomp.	Dec. 5	3.50	32.50
X Cameo. Ivory white.....	Med.	Int. Pomp.	Dec. 5	8.00	75.00
X Silver Star. White.....	Tall	Int. Pomp.	Dec. 10	3.50	32.50
X Yukon.	Tall	Int. Sgl.	Dec. 10	4.50	40.00
XD White Supreme. White suffused with pink.....	Med.	L. Anem.	Dec. 10	3.50	32.50
X*December Glory. (Pompon) White.....	Med.	Int. Dec.	Dec. 15	3.50	32.50
X Garza Supreme.	Short	Int. Anem.	Dec. 15	3.50	32.50
X Snow. Ivory white.....	Med.	Int. Pomp.	Dec. 30	3.50	32.50

BRONZE & RED

*Clara Jameson. Dark reddish bronze.....	Med.	S. Pomp.	Oct. 15	3.50	32.50
XP Bonnibell. Orange buff.....	Short	S. Pomp.	Oct. 15	3.50	32.50
Carlina Lee. Reddish bronze.....	Med.	Int. Dec.	Oct. 20	3.50	32.50
XS Roman Bronze. Bronze. Sport from Capt. Cook	Tall	Int. Pomp.	Oct. 20	3.50	32.50
XS Adelaide. Mahogany	Med.	S. Pomp.	Oct. 23	3.50	32.50
XSD Jemima. Bronze	Med.	Int. Pomp.	Oct. 23	3.50	32.50
*Bronze Persian Rose. Bronze suffused with pink	Short	Int. Pomp.	Oct. 23	4.50	40.00
X Natoma. Flame scarlet.....	Short	Int. Dec.	Oct. 25	3.50	32.50
P*Ethel. Bronze	Med.	S. Pomp.	Oct. 25	3.50	32.50
XS*Firebird. Red bronze.....	Med.	Int. Dec.	Oct. 25	3.50	32.50
X October Bronze. Light bronze.....	Med.	Int. Sgl.	Oct. 28	3.50	32.50
X*Bronze Daisy. Light bronze.....	Med.	Int. Sgl.	Nov. 1	3.50	32.50

Pompons, Single & Anemone Varieties**BRONZE & RED (Continued)**

Name and Description	Height	Size & Type	Matures	Price per	
				100	1000
X Elizabeth Peterson. Orange bronze.....	Med.	Int. Dec.	Nov. 3	3.50	32.50
XP Bronze Buckingham. Bronze.....	Short	Int. Sgl.	Nov. 3	3.50	32.50
XS*Robin Hood. Dark red.....	Med.	S. Pomp.	Nov. 5	3.50	32.50
XD*Red Rover. Crimson orange.....	Short	L. Sgl.	Nov. 5	3.50	32.50
XS Red Daisy. Deep red.....	Med.	Int. Sgl.	Nov. 5	3.50	32.50
X Bronze Bulkeley. Bronze.....	Tall	Int. Pomp.	Nov. 8	4.50	40.00
XD*Mason's Bronze. Burnt orange.....	Short	L. Sgl.	Nov. 10	3.50	32.50
XP Tagoya. Brilliant goya red.....	Short	Int. Sgl.	Nov. 10	3.50	32.50
XSD Europa. Cardinal red.....	Short	L. Sgl.	Nov. 10	8.00	75.00
XSD Clara Holford. Deep red.....	Med.	L. Sgl.	Nov. 10	3.50	32.50
D Mason's Red. Orange center.....	Short	L. Sgl.	Nov. 10	4.50	40.00
XD Bronze Tuxedo. Buff.....	Med.	L. Anem.	Nov. 10	3.50	32.50
XD*The Titan. Scarlet crimson.....	Med.	L. Anem.	Nov. 10	3.50	32.50
XPD Melba. Light reddish bronze.....	Short	L. Sgl.	Nov. 10	3.50	32.50
XPD Red Melba. Red.....	Short	L. Sgl.	Nov. 10	3.50	32.50
XS New York. Bronze.....	Med.	S. Pomp.	Nov. 13	3.50	32.50
XSD*Bronze Masterpiece. Apricot bronze.....	Med.	Int. Pomp.	Nov. 15	6.00	50.00
XS Fez. Deep bronze.....	Med.	S. Pomp.	Nov. 15	3.50	32.50
XSP*Princeton. Golden yellow suffused with orange	Med.	Int. Dec.	Nov. 15	3.50	32.50
X Mrs. Mary Hooker. Deep red.....	Tall	L. Dec.	Nov. 15	3.50	32.50
XS*Red Princeton. Brazil red.....	Med.	Int. Dec.	Nov. 15	3.50	32.50
Vagabond. Apricot buff.....	Med.	Int. Sgl.	Nov. 15	4.50	40.00
XSD Bronze Freida. Salmon buff.....	Med.	L. Anem.	Nov. 15	4.50	40.00
XP November Bronze. Orange bronze.....	Med.	Int. Pomp.	Nov. 18	3.50	32.50
X Catherine. Bronze.....	Med.	Int. Dec.	Nov. 20	3.50	32.50
X*Legal Tender. Bronze and gold.....	Med.	Int. Dec.	Nov. 20	3.50	32.50
Afterglow. Rust bronze.....	Med.	Int. Sgl.	Nov. 20	4.50	40.00
Flamingo. Scarlet, yellow center.....	Med.	Int. Sgl.	Nov. 20	4.50	40.00
XPD Rolinda. Orange bronze.....	Med.	Int. Anem.	Nov. 23	3.50	32.50
XPD Red Rolinda. Deep reddish bronze.....	Med.	Int. Anem.	Nov. 23	3.50	32.50
X Apricot. Apricot yellow.....	Med.	Int. Pomp.	Nov. 25	4.50	40.00
XPD Sunburst. Sunburst orange.....	Med.	L. Sgl.	Nov. 25	3.50	32.50
X*Yolanda. Pale orange bronze.....	Med.	S. Anem.	Nov. 25	3.50	32.50
XPD Crimson Glow. Maroon.....	Med.	Int. Anem.	Nov. 25	3.50	32.50
X Dorothy Turner. Bronze.....	Med.	Int. Pomp.	Nov. 25	3.50	32.50
XD Amberlite. Orange bronze.....	Med.	Int. Sgl.	Nov. 25	8.00	75.00
X Bristolite. Bronze	Med.	Int. Pomp.	Nov. 25	3.50	32.50
X Glow. Orange. Reddish orange at center.....	Med.	Int. Pomp.	Nov. 30	3.50	32.50
XD*Jane. Light buff bronze. Sport from Valencia	Tall	L. Sgl.	Nov. 30	3.50	32.50
XPD Carnelia. Red	Short	L. Sgl.	Nov. 30	3.50	32.50
X Orange Belle. Reddish bronze.....	Med.	S. Pomp.	Nov. 30	8.00	75.00
X Royal Crimson. Dark crimson.....	Med.	L. Dec.	Dec. 1	3.50	32.50
X Viking. Deep reddish orange.....	Med.	Int. Sgl.	Dec. 1	3.50	32.50
X*Chrome Emerald. Golden orange.....	Short	Int. Anem.	Dec. 1	3.50	32.50
Wildfire. Orange rust.....	Med.	Int. Dec.	Dec. 3	3.50	32.50
XD*Matador. Crimson red.....	Med.	L. Anem.	Dec. 5	8.00	75.00
Harmony. Red orange with bronze shading.....	Med.	Int. Pomp.	Dec. 5	3.50	32.50
X Cavalcade. Mandarin red. Golden bronze re- verse	Med.	Int. Pomp.	Dec. 10	3.50	32.50
Blaze. Deep scarlet red.....	Tall	Int. Sgl.	Dec. 10	3.50	32.50
XPD Bronze Supreme. Light bronze.....	Med.	L. Anem.	Dec. 10	3.50	32.50
X Sarong. Bright scarlet.....	Med.	Int. Sgl.	Dec. 15	4.50	40.00

Pompons, Single & Anemone Varieties (Continued)

PINK

Name and Description	Height	Size & Type	Matures	Price per	
				100	1000
Cho Cho. Lavender.....	Med.	S. Pomp.	Oct. 10	12.00	100.00
XSP*Jewell. Bright rose pink.....	Short	S. Pomp.	Oct. 15	3.50	32.50
XP*Dark Pink Jewell. Dark pink. Sport from Jewell	Short	S. Pomp.	Oct. 15	3.50	32.50
XS*Pink Pearl. Pink.....	Med.	S. Pomp.	Oct. 20	3.50	32.50
XS Capt. Cook. Pink.....	Tall	Int. Pomp.	Oct. 20	3.50	32.50
Fair Maid. Light lavender.....	Med.	Int. Pomp.	Oct. 20	12.00	100.00
XP*Persian Rose. Rose pink.....	Short	Int. Pomp.	Oct. 23	3.50	32.50
XS*Jessie (Madeline) Deep rose pink.....	Med.	Int. Pomp.	Oct. 25	3.50	32.50
XS*Pink Dot. White with pink center.....	Med.	Int. Pomp.	Oct. 25	3.50	32.50
XD*Betty Rose. Pink petals and cushion.....	Med.	L. Anem.	Oct. 25	3.50	32.50
XS October Pink. Medium pink.....	Med.	Int. Sgl.	Oct. 28	3.50	32.50
XS Isobel. Light lavender.....	Short	S. Pomp.	Nov. 1	6.00	50.00
XD Irene Rich. Pink.....	Med.	L. Pomp.	Nov. 1	3.50	32.50
XSD*Lillian Doty. Shell pink.....	Med.	L. Pomp.	Nov. 1	3.50	32.50
D Rose Charm. Rose pink.....	Med.	L. Pomp.	Nov. 1	3.50	32.50
D Rose Royal. Light lavender.....	Med.	Int. Anem.	Nov. 1	3.50	32.50
XP W. H. Buckingham. Pink.....	Short	Int. Sgl.	Nov. 3	3.50	32.50
D Topknot. Creamy white cushions—pink petals	Med.	Int. Anem.	Nov. 5	3.50	32.50
XS Mrs. Morgan G. Bulkeley. Light pink.....	Tall	Int. Pomp.	Nov. 8	3.50	32.50
Linda Lou. Lavender.....	Med.	Int. Anem.	Nov. 8	3.50	32.50
XSPD*Thyra. Dark pink.....	Med.	L. Pomp.	Nov. 10	3.50	32.50
XD Tuxedo. Pink	Med.	L. Anem.	Nov. 10	3.50	32.50
XS*Silver Tips. Bright pink with silver tips.....	Med.	Int. Pomp.	Nov. 13	3.50	32.50
XSD*Masterpiece. Tourmaline pink.....	Med.	Int. Pomp.	Nov. 15	3.50	32.50
XP Orchid Beauty. Orchid with golden cushion.....	Med.	Int. Anem.	Nov. 15	3.50	32.50
XSPD Freida. Light lavender with yellow cushion.....	Med.	L. Anem.	Nov. 15	3.50	32.50
D Dark Pink Freida. Dark pink.....	Med.	L. Anem.	Nov. 15	4.50	40.00
XSD*Norma. Orchid petals with salmon cushion.....	Tall	Int. Anem.	Nov. 18	3.50	32.50
XSD*Dark Pink Norma. Deep lavender.....	Tall	Int. Anem.	Nov. 18	3.50	32.50
PD Long Island Beauty. Pale pink with yellow cushion	Med.	L. Anem.	Nov. 20	3.50	32.50
X Usona. Pink	Med.	Int. Pomp.	Nov. 25	3.50	32.50
X*Hasegawa Pink. Lavender.....	Med.	Int. Sgl.	Nov. 25	3.50	32.50
XPD*Beautiful Lady. Deep lavender rays with cream cushion	Short	L. Anem.	Nov. 25	3.50	32.50
Uneeda. Lavender	Med.	Int. Pomp.	Nov. 25	12.00	100.00
XD Valencia. Orchid pink.....	Tall	L. Sgl.	Nov. 30	3.50	32.50
XD Dark Pink Valencia. Deep orchid pink.....	Tall	L. Sgl.	Nov. 30	3.50	32.50
Amaranthea. Purplish crimson.....	Med.	Int. Pomp.	Dec. 10	3.50	32.50
Tonquin. Rose color.....	Med.	Int. Pomp.	Dec. 10	3.50	32.50
X Prosperity. Deep lavender.....	Med.	Int. Dec.	Dec. 10	3.50	32.50
XD Dark Pink Supreme. Lavender.....	Med.	L. Anem.	Dec. 10	3.50	32.50
X Aurora. Lavender	Med.	Int. Sgl.	Dec. 15	12.00	100.00
X Pink Treasure Island. Light lavender.....	Med.	Int. Dec.	Dec. 20	3.50	32.50
X Rosalind. Rose pink.....	Tall	Int. Sgl.	Dec. 20	8.00	75.00

Pot Plant Varieties

PLEASE NOTE SYMBOLS USED FOR THIS CLASS

The varieties listed below include those of all types which have been found most suitable for pot culture. Types are indicated by Sgl.—Single; Anem.—Anemone; Dec.—Decorative; Pomp.—Pompon; Inc.—Incurved. Size of flower is indicated by S—Small; Int.—Intermediate; L—Large; and L.F.—Large Flower commercial.

X—Extra good or generally accepted best varieties.

S—Indicates varieties we find most suitable for shading.

*—Indicates varieties most resistant to Verticillium blight.

NOTE CAREFULLY INSTRUCTIONS FOR ORDERING ON PAGE TWO

YELLOW

Name and Description	Type	Spray or Disbud	Blooming Date	Price per 100	Price per 1000
Early Yellow. Yellow. Sport from Early					
Bronze	S. Pomp.	Spray	Sept. 15	3.50	32.50
Pomponette. Primrose yellow.....	Int. Pomp.	Spray	Sept. 20	4.50	40.00
XS Gold Lode. Golden yellow.....	L.F. Dec.	Disbud	Oct. 1	3.50	32.50
XS Cincinnati. Golden yellow.....	L. Pomp.	Disbud	Oct. 20	3.50	32.50
XS*Rodell Improved. Yellow. Sport from Rodell	Int. Pomp.	Spray	Oct. 20	3.50	32.50
XS Blazing Gold. Deep golden yellow.....	L.F. Incurv.	Disbud	Oct. 25	3.50	32.50
*Smith's Superlative. Golden yellow.....	L.F. Dec.	Disbud	Oct. 25	3.50	32.50
Jane Harte. Light lemon yellow.....	S. Sgl.	Cascade	Oct. 30	6.00	50.00
X Ohio State. Yellow.....	Int. Anem.	Disbud	Nov. 1	3.50	32.50
XS*Golden Glory. Golden yellow.....	L.F. Incurv.	Disbud	Nov. 1	3.50	32.50
XS*Nuggets. Best early yellow.....	S. Pomp.	Spray	Nov. 5	3.50	32.50
XS Lila Lilly. Lemon yellow.....	Int. Anem.	Disbud	Nov. 10	3.50	32.50
XS Yellow Beauty. Golden yellow.....	L. Pomp.	Disbud	Nov. 10	3.50	32.50
XS*Sunray. Yellow	S. Anem.	Spray	Nov. 15	3.50	32.50
XS*Yellow Fellow. Yellow.....	Int. Dec.	Dis. or Spr.	Nov. 15	3.50	32.50
X Lois. Golden yellow.....	S. Pomp.	Spray	Nov. 18	3.50	32.50
XS*Bonnaffon DeLuxe. Golden yellow.....	L.F. Incurv.	Disbud	Nov. 20	3.50	32.50
X Bright Light. Bright yellow.....	L. Dec.	Disbud	Nov. 20	3.50	32.50
X Yellow Rolinda. Deep golden yellow.....	Int. Anem.	Dis. or Spr.	Nov. 23	3.50	32.50
X*Sun Gold. Yellow.....	L.F. Dec.	Disbud	Nov. 25	3.50	32.50
Sunshine. Yellow	Int. Anem.	Disbud	Nov. 25	3.50	32.50

WHITE

XS*White Jewell. White suffused with pink....	S. Pomp.	Spray	Oct. 15	3.50	32.50
XS*Irene. White	S. Pomp.	Spray	Oct. 18	3.50	32.50
XS*Christina. White, sport from Rose Chochard	L.F. Incurv.	Disbud	Oct. 20	3.50	32.50
XS Graceland. White with yellow center.....	Int. Anem.	Dis. or Spr.	Oct. 28	3.50	32.50
Anna.	S. Sgl.	Cascade	Oct. 30	6.00	50.00
XS White Izola. White. Sport from Izola.....	S. Anem.	Disbud	Nov. 1	3.50	32.50
XS Richard Mandel. Pure white.....	L. Pomp.	Disbud	Nov. 10	3.50	32.50
X Marketeer.	L.F. Incurv.	Disbud	Nov. 18	3.50	32.50

BRONZE & RED

X Early Bronze. Orange bronze.....	S. Pomp.	Spray	Sept. 15	3.50	32.50
Bronze Lode. Light bronze. Sport from					
Gold Lode	L.F. Dec.	Disbud	Oct. 1	3.50	32.50
X Bonnibell. Orange buff.....	S. Pomp.	Spray	Oct. 15	3.50	32.50
XS Thorina. Reddish bronze.....	Int. Pomp.	Spray	Oct. 20	3.50	32.50
Carlina Lee. Reddish bronze.....	Int. Dec.	Disbud	Oct. 20	3.50	32.50
X*Kathleen Thompson. Bronze.....	Int. Dec.	Disbud	Oct. 25	3.50	32.50
*Ethel. Bronze	S. Pomp.	Spray	Oct. 25	3.50	32.50
XS Alameda. Reddish bronze with buff reverse	L.F. Incurv.	Disbud	Oct. 25	4.50	40.00

Pot Plant Varieties

BRONZE & RED (Continued)

Name and Description	Type	Spray or Disbud	Blooming Date	Price per 100	Price per 1000
XS Glitters. Bright bronze.....	L.F. Dec.	Disbud	Oct. 28	3.50	32.50
X Melba. Reddish bronze.....	L. Sgle.	Disbud	Nov. 10	3.50	32.50
XS Red Melba. Red.....	L. Sgle.	Disbud	Nov. 10	3.50	32.50
X* Gypsy. Pale reddish bronze.....	S. Anem.	Spray	Nov. 15	3.50	32.50
X Rolinda. Orange bronze.....	Int. Anem.	Dis. or Spr.	Nov. 23	3.50	32.50
X Red Rolinda. Red. Sport from Rolinda.....	Int. Anem.	Dis. or Spr.	Nov. 23	3.50	32.50
Mrs. Beu. Standard bronze.....	Int. Dec.	Dis. or Spr.	Nov. 25	3.50	32.50
X Red Beu. Reddish bronze.....	Int. Dec.	Dis. or Spr.	Nov. 25	3.50	32.50
P Harvard. Deep red.....	L.F. Dec.	Disbud	Nov. 30	3.50	32.50

PINK

XS* Jewell. Bright rose pink.....	S. Pomp.	Spray	Oct. 15	3.50	32.50
S Justrite. Pink	L.F. Incurv.	Disbud	Oct. 15	3.50	32.50
X Benoit. Deep pink.....	Int. Pomp.	Disbud	Oct. 15	3.50	32.50
XS* Rose Chochard. Pink.....	L.F. Incurv.	Disbud	Oct. 20	3.50	32.50
Rose Mandel. Light lavender.....	L.F. Incurv.	Disbud	Oct. 20	3.50	32.50
X* Butler's Caprice. Deep pink.....	Int. Dec.	Dis. or Spr.	Oct. 25	3.50	32.50
XS* Thyra. Dark pink.....	L. Pomp.	Disbud	Nov. 10	3.50	32.50
XS Queen of Pinks. (Pink Mandel.)	L. Pomp.	Disbud	Nov. 10	3.50	32.50
XS Ethrelda. Light lavender.....	Int. Anem.	Disbud	Nov. 12	3.50	32.50
* Amaranthea. Purplish crimson.....	Int. Pomp.	Spray	Dec. 10	3.50	32.50

Hardy or Garden Varieties

X—Extra good or generally accepted best varieties.
 S—Indicates varieties we find most suitable for shading.
 P—Indicates varieties suitable for Pot Plants.
 *—Indicates varieties most resistant to Verticillium blight.

YELLOW

Name and Description	Height	Type	Matures	Price per 100	Price per 1000
Harvest Gold. Pale lemon yellow.....	Short	Semi-dble.	Sept. 1	4.50	40.00
Pygmy Gold. Golden yellow.....	Short	Button	Sept. 5	3.50	32.50
Algonquin. Golden yellow	Med.	Decor.	Sept. 10	3.50	32.50
Yellow Cushion. Light buff yellow.....	Short	Semi-dble.	Sept. 10	3.50	32.50
X Barbara Cumming. (Yellow Normandie). Yellow shading to bronze.....	Med.	Decor.	Sept. 15	3.50	32.50
P Early Yellow. Yellow. Sport from Early Bronze..	Short	Button	Sept. 15	3.50	32.50
September Gold. Brilliant golden yellow.....	Med.	Button	Sept. 15	15.00	125.00
Eugene A. Wander. Golden yellow.....	Med.	Decor.	Sept. 20	12.00	100.00
Pomponette. Light buff yellow.....	Med.	Pompon	Sept. 20	4.50	40.00
X* Wolverine. Yellow	Med.	Decor.	Sept. 25	3.50	32.50
King Midas. Light lemon yellow.....	Med.	Decor.	Sept. 30	3.50	32.50
Gleam O'Gold. Pale lemon yellow.....	Short	Decor.	Oct. 5	7.00	65.00
Treasure Trove. Lemon yellow.....	Med.	Button	Oct. 5	7.00	65.00
Golden Spoon. Golden yellow.....	Med.	Spoon	Oct. 10	3.50	32.50
Yellow Irene. Light yellow.....	Med.	Button	Oct. 15	3.50	32.50
XSP Rodell Improved. Light yellow.....	Med.	Button	Oct. 15	3.50	32.50
XP Judith Anderson. Yellow.....	Med.	Button	Oct. 15	3.50	32.50

Hardy or Garden Varieties (Continued)

WHITE

	Name and Description	Type	Spray or Disbud	Blooming Date	Price per 100	Price per 1000
	White Cushion. (Queen Cushion)	Short	Semi-dble.	Sept. 10	3.50	32.50
	September Cloud. White suffused with pink.....	Med.	Decor.	Sept. 15	15.00	125.00
	White Gull.	Short	Button	Sept. 15	3.50	32.50
	Silver Moon. Cream white.....	Med.	Single	Sept. 15	15.00	125.00
X	Jean Cumming. White.....	Med.	Decor.	Sept. 20	3.50	32.50
X	Normandie. White	Short	Decor.	Sept. 20	3.50	32.50
	Milky Way. Cream white.....	Med.	Semi-dble.	Sept. 25	8.00	75.00
	Tasiva. Cream white.....	Med.	Decor.	Oct. 5	3.50	32.50
	White Spoon. White.....	Med.	Spoon	Oct. 10	3.50	32.50
	Uvalda. Cream White.....	Med.	Decor.	Oct. 10	3.50	32.50
	White Jewell. White tinged with light lavender	Med.	Button	Oct. 15	3.50	32.50
	Silver Ball.	Med.	Decor.	Oct. 15	3.50	32.50
	Irene.	Med.	Button	Oct. 15	3.50	32.50

BRONZE & RED

	Bronze Cushion. (King Cushion). Buff bronze..	Short	Semi-dble.	Sept. 10	3.50	32.50
X	Aladdin. Bronze	Short	Decor.	Sept. 10	3.50	32.50
	Red Cushion.	Short	Semi-dble.	Sept. 10	3.50	32.50
XP	Early Bronze. Bronze.....	Short	Button	Sept. 15	3.50	32.50
	September Bronze. Orange bronze.....	Med.	Button	Sept. 15	15.00	125.00
	Autumn Lights. Coppery bronze.....	Short	Semi-dble.	Sept. 20	4.50	40.00
	Nancy Copeland. Spectrum red.....	Med.	Single	Sept. 25	3.50	32.50
X	Frances Whittlesey. Rich bronze and garnet....	Short	Decor.	Sept. 30	3.50	32.50
	Peachblow. Buff bronze.....	Med.	Single	Sept. 30	15.00	125.00
	Romany. Reddish bronze.....	Med.	Decor.	Oct. 5	3.50	32.50
	Santa Claus. Spectrum red.....	Med.	Semi-dble.	Oct. 5	4.50	40.00
	Caliph. Deep red.....	Med.	Decor.	Oct. 8	3.50	32.50
X	Ruth Cumming. Reddish bronze.....	Med.	Decor.	Oct. 8	3.50	32.50
	Mandarin. Coral Salmon.....	Med.	Decor.	Oct. 10	3.50	32.50
	Jasper Spoon. Straw yellow tubes with jasper red spoons	Med.	Spoon	Oct. 10	3.50	32.50
	Apollo. Bronze red.....	Med.	Single	Oct. 12	3.50	32.50
	Natoma. Flame scarlet	Short	Decor.	Oct. 15	3.50	32.50
	Ember. Coral and orange bronze.....	Med.	Decor.	Oct. 15	3.50	32.50
XP	Clara Jameson. Dark reddish bronze.....	Med.	Button	Oct. 15	3.50	32.50
	Bonnibell. Light buff bronze.....	Short	Button	Oct. 15	3.50	32.50
X	Indian Summer. Bronze.....	Med.	Decor.	Oct. 15	3.50	32.50

PINK

	Dean Kay. Rose pink	Short	Semi-dble.	Aug. 25	4.50	40.00
XP	Amelia. (Pink Cushion) Bright pink.....	Short	Semi-dble.	Sept. 10	3.50	32.50
	Early Wonder. Lavender	Med.	Decor.	Sept. 15	4.50	40.00
	Roberta Copeland. Rose pink.....	Short	Semi-dble.	Sept. 15	4.50	40.00
X	Jean Treadway. Light rose pink, dark center..	Med.	Decor.	Oct. 1	3.50	32.50
	The Moor. Amaranth purple.....	Short	Decor.	Oct. 5	3.50	32.50
	Mrs. DuPont. Peach pink shading to rosy salmon	Med.	Decor.	Oct. 5	12.00	100.00
	Burgundy. Amaranth	Med.	Decor.	Oct. 5	4.50	40.00
	Rose Glow. Raspberry changing to opalescent rose	Short	Semi-dble.	Oct. 5	4.50	40.00
	Lavender Lady. Lavender.....	Med.	Decor.	Oct. 8	7.00	65.00
	Orchid Spoon. Light pinkish lilac.....	Med.	Spoon	Oct. 10	3.50	32.50
	Symphony. Mauve, coppery pink & lavender....	Med.	Decor.	Oct. 12	3.50	32.50
X	Benoit. Deep lavender	Med.	Decor.	Oct. 15	3.50	32.50
XS	Jewell. Lavender	Med.	Button	Oct. 15	3.50	32.50
P	Dark Pink Jewell. Deep lavender. Sport from Jewell	Med.	Button	Oct. 15	3.50	32.50

ON GROWING MUMS

Chrysanthemums are not cheaply grown, nor are they particularly easy to grow if first class flowers are expected. However, if good cuttings are planted at the right time, sufficient fertilizer and labor is used as needed and given someone who is really interested in getting the most out of their Mum crop, Mums definitely pay. Either Mums or Poms, however, must be treated as a major crop to be successful; other crops must be used to fit the requirements of Mums.

During these doubly difficult times for florists, we must come quickly to the realization—and act promptly upon that realization—that our facilities, labor, capital, and equipment, are definitely limited. We must limit our crops to those we can do well and concentrate on those. That isn't a bad idea any time but might easily be our salvation now. Therefore, if you want to grow your Mums, grow them well or else don't bother with them.

TO PROPAGATE OR BUY?

One of the first decisions to be made in planning a crop of Mums or Poms is the one involving whether to propagate one's own cuttings or to buy. The answer can easily be determined by yourself in a few minutes of thinking. If you want to grow a first-class crop of flowers, then all cuttings of a given variety and planting must be taken and rooted as near one time as possible. And of course they must be clean and first class in every respect. You can't expect a 100% crop from a variety if your plants come from a half dozen different propagations. If you don't have sufficient stock plants and propagating equipment to produce good cuttings and all you need at the right time, then it will be more profitable to buy. Most growers are convinced that to buy from a dependable propagator who can deliver your cuttings in one bunch, when you want them, is the cheapest way out and the one most conducive to a first class crop of flowers—one that will show a profit at the end of the season.

There are many growers—both large and small—who successfully propagate their own Mum cuttings. They are successful because they realize the importance of doing a good job, that includes keeping their stock plants clean of insects, especially midge, and diseases and having sufficiently large plantings and facilities to provide the kind and number of cuttings when they want to plant.

SOILS AND FERTILIZERS

On the basis of the experience of several good growers, there doesn't seem to be much difference between raised or ground beds for Mum growing altho most growers prefer raised beds. The nutrient materials in the

soil and careful watering seem to be the critical soil factors. Nearly any good greenhouse soil that is neutral or slightly acid and of a medium texture will do very well.

Most growers like to start their Mum crop off with a layer of well-rotted manure and an application of about 5 pounds of 20% superphosphate per 100 sq. ft. of bench space before planting. Given ordinarily good greenhouse soil, this should be sufficient to carry the plants along until buds are set. It is customary at that time to begin regular (two week intervals) feedings of a quickly available nitrogenous fertilizer until buds begin to unfold and show color. Ammonium sulfate, calcium nitrate or sodium nitrate applied 1 pound per 100 sq. ft. of bench space are suitable top dressing materials.

Balanced fertilizers such as Vigoro may be used instead of nitrogenous materials. Altho nitrogen is the critical nutrient element for this feeding, most balanced fertilizers contain supplies of the lesser important and minor elements that, if not applied, sometimes become limiting factors to plant growth. Alex Laurie of Ohio State recommends a mulch of a foreign or domestic Peat on Chrysanthemums as soon as they are started. He states that they act as quick growth starters. Altho his claim for 50 to 100% increase in growth because of a peat application probably couldn't be duplicated in all greenhouses, as he says, peat, especially domestic brands, contains a certain amount of nitrogen. It also benefits the soil both in its moisture holding capacity and by adding its humus which most soils can stand. If your soil is on the alkaline side, peat applications will gradually bring it down to neutral or acid.

There is a magnificence to perfectly finished big white Mums that never fails to attract. Our sales records show that the demand for white and yellow averages about even thru the season. More yellow is wanted in Oct. but Nov. and Dec. want plenty good white such as is supplied by Indianapolis White pictured.



PLANTING

One of the most common reasons for very ordinary crops of Mums and Poms is too-late planting. Chrysanthemums flower only at a certain time. If the plants are started sufficiently early, they will make sufficient growth to produce large flowers on long, strong stems. If plants are started too late, they won't have enough time to develop sufficient strength to produce first class stock. If you grow Mums or Poms in outdoor or cloth or lath house beds, rooted cuttings should be planted just as soon in the spring as you can do so safely; early May is the latest practical date. If your crop is an indoor one and uses mid-season varieties shaded to flower in late Sept. or early Oct., rooted cuttings should be planted in early May. If your houses are filled with spring stock that won't be cleared until late June, better not try to grow Mums early—you'll find it cheaper to buy first class flowers. Thanksgiving flowering varieties can be planted safely not later than the first of July. Christmas flowering varieties like Garza Supreme can be planted in July. One grower of our acquaintance who cuts Mums and Poms from the middle of August until February, lifts large field-grown Garza plants the middle of August for planting after his earliest shaded crop. This is an extreme case of late planting and isn't generally recommended.

The above planting dates can be extended somewhat by potting rooted cuttings or planting them out-doors or inside in benches close together, about 4x5 in., and then moving the plants to their flowering beds later. Theoretically this practice ought to work all right. The difficulty lies in the fact that these plants are very liable to become checked or hardened either by being left in pots too long or checked in moving from one location to another when they are fairly large plants.

As a general rule, best crops result from planting rooted cuttings right into their flowering beds and the earlier the better. This avoids all checks to growth that result in partial failures.

SPACING

The spacing of plants is conditioned by two factors. On one side is the economic, arguing that the more flowers cut per sq. ft., the more money earned. The other and opposite influence places a minimum spacing between plants, below which Mums or sprays of Poms will not develop fully and normally. Too close spacing prevents proper light and air circulation and in so doing, not only prevents proper development of flowers and foliage but also invites no end of insect and disease problems.



"October Pink" the new single that doesn't lose its color when shaded. Heavy producer, clear rose pink. That's John Jacobs, West Chicago, Illinois, the grower on the right.

Another factor to be considered is the individual varieties to be grown; some varieties are much heavier growers than others and therefore require more room. A satisfactory spacing for an average variety, grown one flower to a plant might be 6x7 or 7x8. The same variety grown two flowers per plant should be spaced more liberally, say 8x8 to 8x10.

Our friend Cecil Delworth of Weston, Ont., Canada, uses the following rule-of-thumb for spacing plants of Poms. Altho recognizing that Pompon varieties vary considerably in their heaviness of growth and therefore in their space requirements, Mr. Delworth thinks that spacing of plants should be conditioned by the number of sprays to be grown to a plant. For instance if you are growing only two sprays per plant, a spacing of 5x8 to 7x8 in. might be appropriate and 8x8 in. for three stems per plant. This figures between 20 and 30 sq. in. of bench space per stem or spray.

Experience with the varieties you grow and also with your own methods of growing will largely determine the spacing you use. The above are suggestions of spacings used by successful growers of first class stock.

PINCHING POMPONS

Closely allied with the question of spacing, is that of pruning or pinching. Successful growers of first class stock agree that Poms should not only be pinched back to make the plants branch but should be so pinched and disbudded as to allow only a definite and predetermined number of sprays to form per plant. Mr. Delworth advocates allowing two, or at the most three sprays per plant. Most growers of first class stock limit their production to not over 4 sprays per plant. The problem is one you should settle for yourself and it should be settled purely on a dollar and cents basis. Obviously if you allow your plants to produce as

many sprays as they are able, some of them will be only partly filled out, some will be smothered and crowded out and therefore unsalable. We can obviously go to the other extreme also and not produce as many as the plant or the space allotted is capable of supporting. Between the two extremes is a point above which imperfect sprays will be formed and below which space and plant energy will be wasted.

Pompon varieties vary of course in the amount of growth they produce and this will affect spacing and pinching. As with Mums, the formation of flowers and sprays and sometimes the color of flowers is affected by the number of sprays each plant is allowed to produce and the time the plant is pinched. The trial and error method of varying the number of sprays per plant and the time of pinching is the only dependable method of establishing the best routine for you to follow. Generally speaking, pinching of Pompons should be done as early in the plant's life as possible so as to insure long stems. Too late pinching is apt to produce blind and short stemmed growth.

TAKING BUDS ON MUMS

The question of which bud to take on Mum varieties has long been a subject of discussion among Mum growers. It is quite an important one too; if the wrong bud is taken, misshapen, undersized and off-colored flowers may result. Most specialists in recent years have changed their fundamental thinking on the question and are now basing their bud taking on a time schedule basis rather than on the taking of the crown or terminal bud alone. *The flowering bud appearing a certain number of days before the date flowers are supposed to be ready to cut, is taken, regardless of whether it is a crown or terminal bud. This interval of days between flowering time and bud taking varies with different varieties and particularly between earlier and later flowering kinds. The interval is longer for the later varieties than for the earlies.

In our list of large flowering commercial varieties in the first part of this catalog, you will notice a column headed "select bud." The date in this column appearing opposite each variety is the date we recommend that the flowering bud be selected for that variety if grown to flower at its normal maturing date—not black-cloth shaded. In growing these varieties shaded for earlier flowering, this date for selecting buds should be advanced nearly as many days as you plan to advance the flowering date of the variety.

WATERING

There are two kinds of watering that should be practiced in growing Chrysanthemums. One is soil watering and

*The crown bud is the first flowering bud to appear and is characterized by being surrounded with vegetative or leaf buds; the terminal bud appears later and is surrounded by other flower buds and no leaf buds. There may be several crown buds but only 1 terminal bud.

the other is syringing or spraying of the foliage. Mums definitely do not enjoy an overly-wet soil. A little on the dry side is to be preferred to the other extreme. This is especially important during hot weather. When grown on raised beds the danger of over-watering is not so great as when grown on ground beds. Chrysanthemums are heavy growers and require a considerable amount of water during their growing season but if their roots are submerged in water-logged soil very much of the time they will rot and the plants' leaves will turn yellow and they may eventually die if the water-soaked condition persists. Soil watering, as with most other crops should be done only when the soil is actually dry and then done thoroly. Withholding water from Mums during the hot summer months to the point of wilting does no particular harm just so the plants do not remain long in that condition.

Syringing, "wetting down" or spraying of the foliage of Mums should be done several times a day during very hot summer weather. If forceful syringing is done, red spider is kept in check; however, just spraying or wetting the foliage, beds and walks accomplishes the purpose of reducing transpiration within the plant, cutting down the temperature in the house and increasing atmospheric moisture, all of which are highly desirable during the heat of the summer. Larger growers sometimes have overhead sprinkling systems that operate on the Skinner system principle. These save immensely in time since one man in five minutes can spray a whole house that would require perhaps an hour if done with the hose. Be careful not to spray too heavily—the object is just to wet the foliage—the soil should not be wet any more than necessary.

INSECTS AND DISEASES

Nowhere is the use of good material and equipment more profitable than in combating insects and diseases of greenhouse crops. Use only the most effective and all-around best insecticides and fungicides available, applying

Apricot Queen, two to a plant, with Albatross on the right grown in a Flexo Glass house photoed October 7th, started shading July 30th.



them strictly according to directions and with good equipment. Not many growers lose a whole crop to an infestation of midge or red spider or to a case of verticillium but the sum total of partial losses due to these pests are heavy. Every effective and intelligent effort you can make to keep your plantings free of insects and diseases will be amply rewarded.

Many of our old stand-by insecticides and fungicides are no longer available this season because of priorities and material shipping difficulties. In nearly all cases, however, suitable substitutes are available. Nicofume liquid applied according to directions will take good care of aphis or green fly. Loro or Lethane are effective on Mealy Bug and Midge and Red Spider and Thrip. Some growers prefer fumigation with Cyanide or Nicofume for Midge and Thrip.

Foliar nematode is not easy to get rid of and usually results in partially defoliated plants. Keeping foliage dry and using double strength Nicofume spray are recommended by Laurie. Destroying all infected plants and sterilizing soil is good insurance against re-appearance next season. Foliar nematode infestation can be identified by red or brown to black spots that occur between veins on the leaves.

Verticillium is one of the most important and destructive diseases attacking Chrysanthemums. Wilting of the leaves of infected plants is the most common symptom altho in some cases no wilting occurs. Diseased plants are stunted and beginning at the bottom of the plant leaves turn brown and die; they remain attached to the plant, however. Chrysanthemum plants usually don't die from a verticillium infection but produce under-sized and deformed flowers.

Verticillium is spread in two ways: by soil infested with the fungus and by plant tissue that is diseased. It is up to you to be sure the soil in which you intend to plant your Mums is absolutely free of verticillium; a good job of soil sterilizing will get rid of an infestation if you have one. Obviously, to buy disease-free stock and then plant it in infested soil would be a foolish waste of time and money.

It is also the duty of the propagator from whom you buy cuttings to furnish you disease-free cuttings. Cuttings of most of the important varieties listed in this catalog are taken from absolutely disease-free stock as checked by laboratory cultures. ALL cuttings are taken from only healthy, robust plants. If you propagate your own cuttings, watch the plants you intend to use for stock closely during their growing and flowering stages,—the disease manifests itself more clearly then than later. Pull out and destroy all infested plants just as soon as they show symptoms.

Another precaution you can take to keep verticillium from your Mum planting consists in confining your planting as nearly as possible to only those varieties that are verticillium-resistant. Our catalog indicates those varieties that are considerably resistant. In some cases, these resistant varieties show some symptoms of



EUROPA. A brilliant Cardinal red single.

the disease but even if planted in heavily infested soil, these resistant varieties will produce a good percentage of marketable flowers. The variety Seidewitz (both Edwin and White) is the classical example of a susceptible variety. Before verticillium was definitely isolated and recognized, it was known by growers as Seidewitz Disease because wherever it occurred the Seidewitz varieties always were badly affected. Because of this susceptibility, these varieties have practically disappeared from commerce.

To sum up on verticillium: (1) If you have verticillium trouble, buy or propagate cuttings taken only from disease-free plants; (2) plant only in sterilized soil and (3) use only verticillium-resistant varieties.

Mildew is sometimes encountered on Chrysanthemum plants. It is usually started and spread by close, moist air. It can easily be controlled and stopped by ventilation, keeping the foliage as dry as possible and dusting with 300-mesh dusting sulfur with a power duster.

Sometimes in shading Chrysanthemums with black-cloth for earlier flowering, the cloth is put over the plants in the late afternoon and left on until well after sun-up. This means that the plants are confined to a nearly air-tight space all night. With a fall in temperature, humidity within the enclosure goes way up—sometimes to such an extent as to cause a collection of moisture on the foliage of the plants. Obviously this condition is "tailor-made" for such troubles as foliar nematodes and mildew. If such troubles arise, it may be necessary to start shading earlier in the afternoon and take the cloth off after dark so the plants will get good air circulation during the night.

BLACK-CLOTH SHADING

Taking advantage of the "short-day" characteristic of Chrysanthemums, most growers are now shading with black cloth certain varieties so as to have them in flower earlier than the normal season. Chrysanthemum flowering buds are normally formed at a certain time during the fall and it is supposed that the decreasing amount of light the plants receive during this season is responsible for the formation of flowering buds. By covering the plants completely with an opaque material such as black sateen cloth, rubberized cloth, canvas, heavy tar-paper, etc., for a few hours each day, (usually from 5 in the afternoon thru until 7 the next morning) the decreasing day length condition of the fall season can be simulated and Chrysanthemum plants will form their flowering buds earlier than normal, resulting in earlier cutting of flowers. The big economic advantage involved in shading Mums and Poms for earlier flowering lies in the fact that the finer quality mid-season varieties can be ready for market early in the season and bring a much better price than do the generally poorer flowers produced normally by the early flowering varieties.

About materials for shading. Some growers like black sateen cloth that is about the oldest in the field; others prefer rubberized material, canvas or tar paper. Whatever is used, the main point is that it keeps out light. If there is a light leak around a support post for instance, the plants immediately around that point will not flower as early as those that were shaded properly. Go to particular pains to see that no light leaks reduce the efficiency of your job.

For earliest shading—to flower end of August or first part of September, shading should start July 1st or about 60 days in advance of flowering date. Continue shading until buds on either Mums or Poms begin to unfold and show color. In any event shading shouldn't be started until Poms are at least 14 to 18 in. high since most of the stem length is made before shading starts. Mums should be 18 to 24 in. high before shading starts. This points to early planting—May first preferably. We usually finish planting stock for shading immediately after Mother's Day.

Varieties differ a lot in their reaction to shading. Generally strong-colored varieties should be used since the tendency is for colors to fade somewhat under shading. For instance, the variety Apricot Queen that is a rich shade of buff or apricot yellow, grown naturally, shades down to a clear deep yellow under black cloth. Pink varieties sometimes fade particularly into washed-out worthless colors; use only the deepest pink colored varieties. The varieties we

have found best for shading are so indicated in the list in the front of this catalog.

ELECTRIC LIGHT TREATMENT

To prolong the flowering season of particularly desirable varieties, the plants should be exposed for 3 hours each night to a minimum of 10 foot candles of Mazda light beginning about Aug. 15. Laurie suggests a convenient rule-of-thumb for determining how long to leave the lights on. He says the lights should be continued for $\frac{3}{4}$ as many nights after September 1st as it is desirous to delay flowering. That is, if you intend to delay the flowering a month on a certain variety, then lighting should be kept on $\frac{3}{4}$ of a month after Sept. 1st or until Sept. 22 or 23. Lighting late varieties like Garza Supreme results in bringing them into flower in Jan. and Feb. when flowers are sometimes scarce.

The tendency among better growers, with the advent of shading and lighting is to grow fewer varieties. Pick the finest available for your conditions and extend their flowering season as long as practical.

GROWING CHRYSANTHEMUMS OUTDOORS

Many growers are successfully producing good quality Mums and especially Poms in outdoor beds. This method has the advantage of saving more expensive greenhouse space and producing flowers cheaper. In some parts of our country, and with greenhouses that are not cool in the summer, a better quality flower can be produced out-doors because of lower summer temperatures. Several precautions must be observed if first class flowers are to be produced out-doors, however.

Cuttings must be planted early. Cuttings should be planted outdoors by May 1st at the latest. Keep the plants in a good growing condition thruout the season. They are being forced into flower early and any check to their growth will certainly be reflected in poorer quality flowers. This includes keeping them free of insects, which is more of a problem than when they are grown indoors. The use of medium early varieties that normally flower middle to latter part of October is advisable; by shading with black cloth they can be flowered in Sept. The protection of cheese or Aster cloth for outdoor grown stock is advisable thruout the season; it helps prevent sun burn of foliage and flowers and generally makes for a higher quality product. The choice of varieties is especially important. Try varieties that are new to you in a small way first and use only those that are recommended for shading.

POT PLANTS



The wholesale growing of pot mums is a specialty with Johnson and Bergholt (Green Mill Gardens) Chicago. With such compact plants and clean foliage to the ground, we easily understand why they had no plants in flower on hand for our photographer. 4-5 cuttings are used in the foreground pots. Most of the planting was done in July.

STANDARD

Albatross
Alameda
Ambassador (White)
Apricot Queen
Blazing Gold
Bonaffon DeLuxe
Christina
Detroit News
Friendly Rival
Glitters
Gold Lode
Golden Glory
Good News
Helen Frick

Honey Dew
Indianapolis Pink
Justrite
Marketeer
Mefo
Monument
Mrs. H. E. Kidder
Mrs. David F. Roy
Mrs. A. J. Stahelin
Rose Chochard
Saratoga
Smith's Superlative
Sun Gold
Thanksgiving Pink

MEDIUM-SIZE DISBUDS

Bright Light
Ethrelda
Graceland
Gypsy
Judith Anderson
Kathleen Thompson
Lila Lily
Little America
Melba

Ohio State
Persian Rose
Queen of the Pink
Richard Mandel
Sunray
Thyra
White Izola
Yellow Beauty

The demand for well grown pot plants is clearly increasing. Whether this is due to increasing business or the lasting quality of mums, it is important to appreciate and take advantage of it. Of first importance is an unchecked start. To assure this plant use well rooted, clean cuttings, 3-4 of them in a 5 to 6 in. pot. While this calls for some care in watering, it cuts out the costly job of repotting which is necessary. Also to assure a nicely balanced plant, space the cuttings well. Most growers do this planting in June and 3 pinches are usually required. The first one is made 2-3 weeks after planting. The second, about 30 days after planting; the last pinch after the breaks from the second get to drawing out and is usually made in August, and if the breaks have drawn considerably and are soft, pinch rather hard. Remember that the finished plants of the small flowered kind shouldn't exceed 12 to 18 in., while the disbuds should not exceed 18 in., and to get maximum size to flowers and value in plants, attend to disbudding large flowering ones timely. The general feeding principles that apply to bench crops

should be somewhat intensified with pot plants, especially after they become well pot bound, and at this stage it is even more important to watch watering closely. From most sections comes an increasing demand for large-flowered classes for pots, but the medium size "disbuds," especially adapted to this purpose are most popular. The most suitable varieties for pot plant purposes are indicated thus "P."

In addition we offer the following list as most popular for this purpose:

POM POM

Clara Jameson	Minong
Dark Pink Jewell	Nuggets
Dorothy Turner	Rodell Imp.
Ethel	Silver Ball
Golden Splendor	Silver Bells
Golden Spray	Thorina
Irene	White Jewell

HARDY GARDEN VARIETIES

Aladdin	Pygmy Gold
Algonquin	Red Cushion
Barbara Cumming	Ruth Cumming
Francis Whittlesey	Wolverine
Jean Cumming	White Cushion
Jean Treadway	Yellow Cushion
Pink Cushion (Amelia)	

ON BETTER CARNATIONS

Most important cultural factor is starting with clean, disease free, early propagated stock. Any variety or stock is improved or run down thru cutting selection. The use of clean or sterilized soil from cutting to flowering beds and annually changing locations for outdoor planting is necessary because of the soil borne nature of most carnation diseases. If your stock is at all diseased or weak, chances are it will pay you well to start with clean, selected stock, such as we are offering, from carnation cutting specialists. The list we offer this season has been very carefully gone over by us. All varieties of questionable value have been dropped, and don't overlook the value of having some of the novelty colors. A limited supply of such as Scarlet King, Pharaoh, Barbara Bringham and Dairymaid should be part of every retail growers planting, and—
ORDER EARLY.

Gro. J. Ball.

CAPT. "VIC" BALL AND JOHN BONHARD GIVING A BENCH OF PURITAN THE ONCEOVER



CARNATIONS

Instructions for Ordering

Our terms are net 60 days to persons of approved credit standing.

There are no quantity or cash discounts on carnations cuttings.

On our per 1000 cutting price we will furnish 250 at the 1000 rate.

On our per 100 cuttings price we will furnish 25 at the 100 rate except where noted.

Orders for less than 25 of a kind of carnation cuttings can not be taken.

To get the 1000 rate—250 or more cuttings must be ordered of each variety wanted. Vis:—We can not furnish ten lots of 100 each at the 1000 rate.

Carnations are always shipped express collect. This we believe is the safest method of transportation. Remember the Express company is responsible for the safe arrival of your cuttings.

PATENTED CARNATIONS

When a grower develops a new Carnation by hybridization or discovers a sport that he believes is a new and distinct type, he may apply for a patent to the U. S. Bureau of Patents. If this Patent is granted, he has the right to sell this Carnation under any restriction he cares to make.

Most introducers of Patented Carnations sell them by having the purchasers sign an agreement similar to the following:

"We agree to propagate only in such quantity as we will need for our own planting. We will neither sell, trade nor give away any plants or materials which might be used for propagating, and we will make every reasonable effort to prevent such material from leaving our premises. We further agree to destroy all plants produced in excess of our own needs for planting."

When this agreement is signed, the owner of the patent grants the purchaser the right to propagate without limit for his own use.

All our
packages
have this
label →

This box was inspected and accepted by the Express Company for shipment. Therefore, if there is any damage enroute, from being broken or frozen, call your express agent to inspect the same, marking on express receipt the condition of the package and amount of damage, etc., then you file claim, as our responsibility ceases when carrier accepts shipment.

NEW CARNATIONS

1943 Introductions

The descriptions of the new and recent introductions of Carnations are those of the originators. We believe they are honest in their claims and that these varieties have proved of exceptional merit in the section where they have been grown. It is, however, a well-known fact that many new Carnations do much better in some sections of the country than they do in others.

Study the list below. We feel that any Carnations, whose descriptions appeal to you, are worthy of a trial. Some of them seem to have exceptional merit.

NEW VARIETIES NOT LISTED BELOW

There are several additional carnations, which we believe will be offered to the growers this season. The originators have not decided on their prices or the methods of introduction in time for listing in the catalogue. We can, however, furnish any of these new varieties, if and when they are offered to the growers.

TOM KNIPE

Patented

An outstanding new scarlet variety from the originator of Chief Kokomo and Seth Parker. The flower is very full and large with serrated petals. The calyx does not split. Tom Knipe propagates easily and makes good plants under either field or inside culture. Last season Tom Knipe produced more flowers per plant than any other scarlet on the Baur-Steinkamp range. Advance sales indicate an enthusiastic reception by carnation specialists. \$20.00 per 100, \$150.00 per 1000.

DOROTHY NAPIER

Patented

Dorothy Napier has been grown for several years in England, Canada and in this country with excellent success. The Color is a bright medium pink, nearly cerise, that holds exceptionally well in warm weather. The Flowers are large, very full and the calyx does not split. Dorothy Napier is easily propagated and makes good plants in the field and under glass during the summer. The Production compares favorably with all varieties of this color and quality. \$20.00 per 100, \$150.00 per 1000.

ELIZABETH ROWE

(Restricted)

A good producing medium pink, three to four inches across, strong stem, does not split. "Elizabeth Rowe" will be restricted for the Duration of the War and two years thereafter, allowing all purchasers to propagate for their own planting. \$15.00 per 100; \$125.00 per 1000.

ROSE CARESS

This is the new rose pink originated by the United States Department of Agriculture at Beltsville, Maryland. The dissemination of this variety has been turned over by the Department to the S. A. F. and the American Carnation Society. \$15.00 per 100; \$125.00 per 1000.

BAUM'S SUPREME*Patented*

A dark rose-pink seedling—Large blooms on wiry stems. Good producer, seldom splits. Originated by Baum's Home of Flowers, Inc. Knoxville, Tennessee. \$20.00 per 100; \$150.00 per 1000.

HERCULES

A light sport of Virginia, \$15.00 per 100; \$125.00 per 1000.

**BALL BANDS for Your Carnations**

Are you planting your carnation cuttings direct from the sand into 2 $\frac{1}{4}$ Ball Better Plant Bands?

It is a means of insuring disease-free plants from the field.

« « » »

At the right is a Carnation plant lifted from the field July 10. The cutting had been placed in the band in January.



Just from the field in a 2 $\frac{1}{2}$ in. plant band.

Notice how the roots do not become pot bound in our band. Your Carnations never receive a check, from the time the cutting is rooted until the band is removed just prior to being planted in your bench. Carnation growers all over the country are adopting this method. Plan to use Ball Better Bands this spring. Send for circular showing full line of Bands with prices.

THE RECENT AND STANDARD VARIETIES OF CARNATIONS FOR 1943

WHITE VARIETIES

OLIVETTE. This fine carnation enjoyed a very heavy demand last season, and we were sold out by the time the propagating season was half over. The flowers are beautifully formed, with high, full centers shaped almost like a ball cut in two. The blooms are delicately scented and are of medium size. The long, narrow calyx almost never splits. Production is heavy. Stems are of medium length. The flowers are excellent keepers, and are pure white at all times.

\$8.00 per 100 \$75.00 per 1000

PATRICIAN. The flowers are large and the stem is strong and stiff the year around. Produces heavily from early fall until the following summer and makes bushy plants in the field.

\$6.00 per 100 \$55.00 per 1000

PURITAN. A very free-blooming variety with flowers of average size. Makes good field-grown plants and transplants readily. Cool temperature will increase the quality of this variety.

\$6.00 per 100 \$55.00 per 1000

STAR DUST (Patented). A strong sturdy grower, fine stem, clear white, large flowers. It may be the large commercial white for which every Carnation man is searching.

\$20.00 per 100 \$150.00 per 1000

WHITE PETER FISHER. Exactly the same as Peter Fisher in every respect but color. The bloom resembles an improved flower of the variety Ivory, but the stems and foliage are much heavier. This is truly a profitable commercial variety.

\$8.00 per 100 \$70.00 per 1000

WHITE MAYTIME. A pure white sport of Maytime, exactly like the parent plant except for color. This is a very productive and profitable variety.

\$7.50 per 100 \$65.00 per 1000

LIGHT AND SALMON PINK

BLUSH PETER FISHER. A light pink sport of Fisher, same growing habits.

\$12.00 per 100 \$100.00 per 1000

CHARM (Patented). A quality salmon-pink variety resembling Laddie in size but a little darker in color. It grows tall and has a very stiff stem. The plants grow well either in the field or planted indoors. Charm shows a close resemblance to Laddie except it is a good producer and is profitable to grow.

\$20.00 per 100 \$150.00 per 1000

ELEANOR. A fine light salmon pink with symmetrical blooms of medium size having high, full centers. Stems are long, production is good, the calyx is firm, and the flowers are good keepers.

\$6.00 per 100 \$50.00 per 1000

GIANT LADDIE. A deep salmon pink sport of Laddie with larger flowers and more vigorous habits than the parent plant. It is a fair producer of show quality blooms, and is ideal for the discriminating grower with a select market or for the private estate. The flowers are gorgeous, are carried on long, stiff stems, and keep well.

\$9.00 per 100 \$80.00 per 1000

HERMOSA. The color is much deeper and brighter than that of Virginia, but is considerably lighter than Ward. The plants are vigorous and free, stems are long and the calyx is firm. Production is good, and the flowers keep perfectly.

\$7.00 per 100 \$60.00 per 1000

MAYTIME. A beautiful, rich shell pink with high, full centers, good size and attractively formed. The stem is long and stiff. They grow very rapidly. Production is very high.

\$7.00 per 100 \$60.00 per 1000

LIGHT AND SALMON PINK (Continued)

POLLYANNA (Patented). This variety is very close to being the "ideal carnation." The flowers are more than average size, a good Laddie salmon-flesh pink color, good keepers and do not split. The stems are stiff and medium length. Pollyanna is one of the best producers.

\$15.00 per 100 \$125.00 per 1000

RUTH HENGSTENBERG. Is slightly deeper and richer in color than Virginia and the flowers are larger and fuller. The plants are large and productive. The stems are long. The flowers keep well. For growers who experience difficulty with Virginia, this variety offers an excellent substitute.

\$6.00 per 100 \$50.00 per 1000

VIRGINIA. A favorite light pink variety which hardly needs description. The demand for it is as great today as when it first appeared on the market. The flowers are of Enchantress pink, are of medium size, have fringed petals, and borne on stiff, straight stems of medium length. Production is good and is uniform throughout the season. The calyx never splits. The flowers are famed for their keeping qualities.

\$7.00 per 100 \$65.00 per 1000

MEDIUM AND DARK PINK VARIETIES

DARK PINK MAYTIME. This is a deep pink sport of Maytime, and has the same characteristics as the parent variety.

\$7.00 per 100 \$60.00 per 1000

DARK PINK PETER FISHER. A sport of Peter Fisher. It is a good Ward color, has same habit and productiveness of its parent.

\$10.00 per 100 \$90.00 per 1000

DIRIGO. A fine dark pink variety similar to My Love in size, form and color. The flowers are of medium size and deeper in color than Dark Pink Maytime. The plants are large and bushy. Stems are long and strong. The calyx is firm and production is good. The flowers are good keepers and shippers.

\$7.00 per 100 \$60.00 per 1000

JOHN BRIRY. This is a dark pink carnation of high quality. It is not as heavy a producer as some commercial varieties, but its long, strong stem and high quality cause it to bring premium prices. The plants are very large and bushy. The flowers keep perfectly. The color is similar to that of My Love.

\$8.00 per 100 \$75.00 per 1000

NEW DEAL WARD. A selected and improved Boston Ward. The color is slightly deeper than that of Boston Ward, and the plants are more vigorous.

\$6.00 per 100 \$50.00 per 1000

PETER FISHER. The most prolific of the medium or rose pink varieties, and a very popular carnation. The flowers are of medium size, of good substance, and have deeply fringed petals. The stems are long and strong, the calyx does not split, and the flowers keep and ship to perfection.

\$6.00 per 100 \$50.00 per 1000

PINK TREASURE. (Patented) This is a large, full flower of medium or rose pink. It resembles Patrician in form and substance, but has a longer stem and firmer calyx.

\$20.00 per 100 \$150.00 per 1000

ROSALIE. (Patented) One of the good dark pink carnations. The flowers are of medium size, of Ward color, and they are good keepers. The stem is long, and the calyx very seldom splits. The plants are bushy and clean.

\$20.00 per 100 \$150.00 per 1000

MEDIUM AND DARK PINK (Continued)

VIRGINIA ROSE or DARK PINK VIRGINIA. This, also, is a medium or rose pink, much lighter in color than Ward, but slightly deeper and more uniform than is the case with Pink Treasure or Peter Fisher. The lively rose pink blends well in any floral arrangement. If Virginia does well with you, you can not afford to be without Virginia Rose.

GIANT PETER FISHER. This is a sport of Peter Fisher, is a little more vivid in color, and holds its color better than Peter Fisher. It has the same type of flower as Peter Fisher, but is very much larger. The plants have the same characteristics as the parent variety, and production is about the same. This is a more desirable variety than Peter Fisher because of its size, and will be a profitable variety because it is prolific and vigorous.

RED VARIETIES

BARBARA FARR. A scarlet sport of Spectrum Supreme. The flowers are a trifle lighter in color than those of the parent plant. Production is higher than with Spectrum, and there is less splitting. In the autumn and spring the flowers are to be preferred to those of King Cardinal because of their size and superior keeping quality.

FIRE CHIEF (Patented) The new red sport of King Cardinal. Fire Chief is identical to King Cardinal in growth and habits. The color is a little deeper than King Cardinal and the flower has 25% more petals, making it more valuable for shipping.

\$20.00 per 100 \$150.00 per 1000

KING CARDINAL. (Patented). This is still the loveliest shade of all of the red carnations. The flowers are medium to large, with almost smooth petals. Good keepers. Stems are long and strong and seldom split. Production is good.

\$12.00 per 100 \$100.00 per 1000

SPECTRUM SUPREME. This old favorite continues to be grown in large quantities. The color is deep scarlet, the flowers are of good size, production is good. Some splitting occurs.

\$6.00 per 100 \$50.00 per 1000

CRIMSON VARIETIES

BEUERLEIN'S CRIMSON. An outstanding crimson variety. The color and form are the same as Woburn, but the flowers are not quite as large. The variety is much earlier and freer than Woburn.

JOYCE. Another good crimson, larger and more productive than Woburn. The petals are deeply fringed, and have a little more red than either Woburn or Beuerlein's Crimson, but not as much as Seth Parker. The stem is long and splitting is slight.

\$8.00 per 100 \$70.00 per 1000

SETH PARKER. (Patented). A bright crimson variety with a reddish cast which shows to splendid advantage under artificial light. The blooms are larger than those of the other crimson varieties, they are full and well formed, and the petals are fringed. The plants are large, the stems are long and strong, and production is better than average. The calyx is firm, and keeping quality is good.

\$20.00 per 100 \$150.00 per 1000

WOBURN. The blooms are of good size, are full and well-formed, and they keep perfectly. There is never any splitting.

\$7.00 per 100 \$60.00 per 1000

FIGURES ON CARNATION PRODUCTION AT WEST CHICAGO

In order to convince ourselves of the money making possibility of many of the varieties of Carnations which we had never grown at West Chicago, it was decided to test the merits of upwards of twenty-five varieties. A selection was made from the new and recent introductions as well as some of the older ones, which we felt deserved a trial.

Quantities of each kind selected varied from 100 to 250 or more. An accurate count was kept on all blooms cut, the number of cuttings taken, as well as the number of splits.

Below is the season's results on the varieties that seemed to be worth while. About a dozen were discarded as not meeting with our standards. We realize that all growers will not agree with our figures. We know only too well, that some florist will get better results with certain varieties than we did, while some men cannot grow other varieties in a profitable way.

In making a decision as to our best liked varieties, we count not only the production, the habit, the growth, and quality of flowers, etc., but also the returns in dollars that we receive. All our flowers are marketed in the downtown Chicago Wholesale Houses. We have no retail outlet.

OUR FIVE LEADING VARIETIES

Variety	Total Fls. Per Sq. Ft.	Total Cuttings Per Sq. Ft.	Percent of Splits	Notes
1. Virginia	31.10	2.61		Most popular light pink.
2. Olivette	28.86	4.88	2	Steadiest producer—excellent.
3. Charm	20.47	7.68		Best light pink. Good winter quality.
4. Seth Parker	23.90	7.28		Larger—better than Woburn.
5. King Cardinal	26.24	4.25		The old standby in reds.

The above five varieties are being all grown in quantity this coming season, we are however, making a further test by growing a smaller quantity of the following. Possibly this year or the next, may see us dropping one of the above and replacing it with some one or more of the following varieties:

Pollyanna	25.39	2.69		A cropper, fair quality.
John Briry	21.99	2.30		Quality excellent, shows promise.
Virginia Rose	21.03	15.14		Choice for Med. Dark Pink
Dk. Peter Fisher	27.10	6.23		Weak like all Fishers.
Yellow Gold	25.01		20	Average, good stems, splits.
Barb. Brig.	24.33	1.68	2	A good novelty for retail.
Pharaoh	20.40	6.00	5	Shy producer—good novelty.
W. Peter Fisher	32.29	2.00	10	Med. size quality, white.
Star Dust	27.65	13.80	20	Shows promise.
Joyce	28.84		32	Splits too much.
Fire Chief	9.08	22.31	2	Good, shade deeper than King Cardinal.
Gold. Wonder	25.22		4	A novelty, weak of stem.
Dairymaid	30.64	1.54	8	A good novelty.
Pelargonium	22.45	2.69	10	Attractive.

In addition to the above varieties we are growing some of the new introductions, we always try out most of the Carnations that are offered to the trade each season. We welcome visitors at West Chicago. We are running a number of interesting tests in different soils and also different feeding programs. Our Carnations are grown both in sterilized soil and also in gravel, and we believe our Carnation houses have some interesting experiments that will be of value to the modern grower.

VARIEGATED AND NOVELTIES

BARBARA BRIGHAM. A sport of Golden Wonder having flowers which are a beautiful light apricot with pink pencilings. The form, size and habits of growth are the same as those of Golden Wonder.

\$7.00 per 100 \$60.00 per 1000

CHIEF KOKOMO (Patented). The flowers are larger than average and the stems are stiff. This variety remains good during the hot weather.

\$2.00 per dozen \$12.00 per 100 \$100.00 per 1000

DAIRYMAID. One of the best white with distinct penciled lines of deep pink—good commercial variety. A good keeper and shipper.

\$10.00 per 100 \$90.00 per 1000

GOLDEN WONDER. By far the best of the yellow variegated varieties. The blooms are large, full and beautifully formed. The petals are slightly fringed. Flowers are of medium size, and the stem is of medium length.

\$6.00 per 100 \$50.00 per 1000

LOCHINVAR. A pelargonium type flower which has a rich velvet sheen. Yields heavily and the flowers are of average size. This is an attractive novelty.

\$12.00 per 100 \$100.00 per 1000

MARCHIONESS OF HEADFORT. This is an English variety of the Pelargonium type, and is one of the most beautiful and impressive carnations ever introduced. The petals are a creamy white, melting into a ground color of rich, reddish orange. It is a good grower, a good producer, and has a pleasing fragrance. The flowers of Marchioness of Headfort are certain to command premium prices in any market at any time.

\$12.50 per 100 \$100.00 per 1000

PELARGONIUM. Most charming popular and profitable of the English varieties. The color is a white ground, overlaid on each petal with a crimson-maroon, creating a replica of the old Pelargonium. The bloom is large and of good substance. The plants are tall, the stem is good, and the calyx does not split. The variety is a fair producer.

\$10.00 per 100 \$90.00 per 1000

PHARAOH. One of the most beautiful novelty carnations. The petals are a delicate shade of orange with a slightly pink tinting. The tips of each petal are fringed with red. There are no pencilings. The blooms are very large and full, nevertheless there is practically no splitting. The plants are very large and bushy with broad foliage and fine stiff stems. Production is above average.

\$7.00 per 100 \$60.00 per 1000

SCARLET KING. This is a sport of Pelargonium, but is a more satisfactory growing variety than Pelargonium, is freer and has a more outstanding color. The petals are a creamy white with centers of bright red. It is a beautiful carnation, even more appealing than Pelargonium. The flowers are of good size and substance, stems are long, the calyx firm, and the keeping quality excellent.

\$12.50 per 100 \$100.00 per 1000

YELLOW

MAINE SUNSHINE. The flowers are of good size and are of a clear sulphur yellow with no variegation at all. Stems are long, production is high, and the flowers are fine keepers. Splitting occurs, but is not serious.

\$7.00 per 100 \$60.00 per 1000

YELLOW GOLD (Patented) 1938. A clear yellow color and more than average size flowers borne on stiff stems.

\$12.00 per 100 \$100.00 per 1000

UNLISTED VARIETIES

We Can Furnish many varieties of the older and standard carnations not named in this listing, and which are wanted by some growers. Send us the name, the quantity and delivery date of the variety you desire. We will advise promptly if we can secure them for you.

FIELD-GROWN CARNATION PLANTS

Are always scarce, but if orders are placed in the Spring we can furnish most of the standard sorts in June and July.

Treatment of Insects and Diseases

RED SPIDERS . . .

This is the worst insect pest with which carnation growers have to contend. There are scores of remedies, particularly sprays, many of which are worthless, and some of which are dangerous. By far the best method of control is by fumigation with naphthalene base compounds. *Liquid Fulex* is outstanding in this field. Control in the field, in mixed houses, or where only small areas are involved may be by spray or dust. It is preferable to spray as little as possible, for there are very few sprays which will not injure the plants if used frequently. Sprays and dusts kill by contact, and must be applied thoroughly. Rotenone sprays are generally safe and effective on carnations. Oily sprays should be avoided as these are likely to remove the bloom from the foliage. Syringing with a fine stream of water under pressure may be practiced when plants are small and on bright, warm days, but should never be done whenever any fungus or bacterial disease is present. Dusts have met with varying degrees of success, and must be used very carefully in hot weather in order to avoid damage.

APHIDS AND THRIPS . . .

These are comparatively minor problems, and are easily remedied, although thrips will continue to blow in from outside as long as ventilators are open. Nicotine in one form or another is the best cure. Nicotine fumigation every four or five days until the insects are cleaned up is the most effective means of control. Spraying with Paris Green and brown sugar is effective in the case of thrips, but this leaves the foliage dirty and sticky for months.

RHIZOCTONIA STEM ROT (*Rhizoctonia solani*)

Foliage becomes dull, losing green color; entire plant wilts suddenly. Stem near soil wet and soft; the shredded bark sloughing off from the slightest twist, exposing harder tissues beneath. Roots remain intact. Brown knots of fungus mold evident about decayed portion of stem and adhering soil. *It is not carried in cuttings.* Ordinarily the mold is a harmless soil fungus, but under favorable conditions it becomes a serious disease. It thrives under excessively moist and warm conditions. Control is a matter of correct watering and airing, sanitation, shallow planting, soil sterilization and soil rotation. Acidity, alkalinity or fertility of soil within the limits of good plant growth are of no value in the control of the disease. Spraying is useless. Steam sterilization, or sterilization with tear gas, helps, but sterilized soil may easily become reinfected if plants are brought in from outside.

FUSARIUM BRANCH ROT (*Fusarium dianthi*)

Begins with the wilting of a single branch. Leaves are a dull green, then yellow and straw colored. The affected branch dries and shrivels. Infection at first is localized in the stem or branch near crotches or nodes. Injuries of one sort or another caused by careless handling, too rapid growth, topping, picking, etc., are essential for infection except where the disease has been carried with the cuttings. Upon cutting the branches lengthwise, the conductive tissue under the

TREATMENT OF INSECTS AND DISEASES (Continued)

bark is seen to be yellowish or reddish brown extending *up and down following the sap channel*. If the branch is removed before the disease has progressed into the stem, the plant may possibly be saved. Later the brown color expands into the inner tissue of the stem and into the outer bark from the conductive tissue. When the stem is invaded, the branches on the infected side die, and ultimately the entire plant succumbs. The inside tissue of an invaded stem is dry and of a dull brown color, similar in appearance to dead timber. As the infection is usually aerial, soil sterilization is of little value, and there is no known spray which will prevent or cure it. Sterilizing benches, flats, soil and sand are sanitary methods which are helpful, but do not expect to control *Fusarium Branch Rot* in this manner. Warm, moist conditions are favorable for the growth of the disease. Avoid excessive and overhead watering and injuries to plants. Provide plenty of air, and run houses cool. Discard those varieties that are particularly susceptible.

ALTERNARIA BLIGHT (*Alternaria dianthi*)

This disease is known as spot, blight or branch rot. Purple spots appear on leaves and flower parts, later browning and blighting the parts. Under moist conditions the blighted parts become overgrown with blackish or sooty masses of fungus. After benching, the fungus causes a prevalent branch rot centering at the nodes. Here the fungus causes dark colored spots or cankers which partially or completely girdle the branch. Ultimately the rot progresses deeper into the tissue, and the portion of the branch above wilts. The color of the invaded tissue is dark brown, almost black, and the color may extend from the bark to the wood. The discoloration extends *inward from the outside*, and does not follow the conductive tissue as does *Fusarium*. Infection takes place without the plant having first been injured, and almost always occurs in the field. Before branches wilt, the leaves are streaked or marked with whitish or light green areas. Certain varieties are more susceptible to the disease than others. Inside culture will usually eliminate *Alternaria*. Spraying with *Bordeaux* weekly from the time that plants go to the field until they are benched will form a chemical barrier between the plant and the fungus which is very effective. *Alternaria is not carried in the cuttings*, and any variety is likely to be attacked.

BACTERIAL LEAF SPOT (*Phytomonas Woodsii*)

This disease is so rare in many sections that growers are likely to confuse it with *alternaria blight* or *fairy ring*, and therein lies its greatest danger. It is a foliage disease caused by a bacteria or microbe which progresses from the lower leaves upward, attacking the stem and bud only in very severe cases. If not checked, the plant becomes defoliated and will die. In any case, the plants will be checked and production arrested. The disease occurs *only in the presence of injuries*, but spiders, thrips, aphids, etc., will provide sufficient injury for the bacteria to gain entrance. It is, therefore, of vital importance that plants be kept free of insects. The development of the disease is slow at temperatures of 60 degrees or less, and very rapid at higher temperatures. The trouble is first indicated by the presence of small, oval spots of pale brown color. These spots are usually sunken, and soon become yellow with a dark green or purple margin. These spots may include the entire breadth of the leaf, and where spots are numerous, they have a tendency to grow together. Several spots ultimately cause the death of the leaf, in which case the leaf turns a yellow straw color, withers and dies, the spots retain a rusty brown color. Greenhouses should be kept cool, dry and well ventilated. There must be no overhead watering of any kind. Fortunately the disease may be cured or prevented by use of a spray consisting of 3 pounds of zinc sulfate, 1½ pounds alum, 4 pounds hydrated lime, and a good spreader to 50 gallons of water. Dusting with fine sulphur is a further precaution which may be taken.

RUST . . . (*Uromyces caryophyllinus*)

Sulphur is the most effective preventative and cure for rust. Use a fine dusting sulphur, and apply it with a good blower. Use it on young plants as soon as the first trace of rust appears, and apply on bright, warm, days. Sulphur may safely be used once a week or oftener. In light soils it may cause a slight acid reaction, but this is easily overcome. In the field where dusting is impractical, lime-sulfur may be sprayed. *Bordeaux* or other copper sprays have very little effect on rust. The disease is so easily prevented or cleaned up that there is no excuse for a grower permitting his plants to become damaged by it. Keep plants dry, provide plenty of air, and run houses cool.



The picture above shows the inside of Pesche's cloth house and shows how well these plants are producing. The close-up is a picture of Fred Pesche and his three daughters, from left to right: Dolores, Marie Therese and Lorraine. The other figure is Charles Newbold who looks after our plant sales.

CARNATIONS UNDER CLOTH

Our readers may recall an article in September 1941 issue of *GROWER TALKS* describing a test planting of Carnations here at West Chicago that had been carried on from May until frost. This method of growing carnations in a cloth house aroused a considerable amount of interest and one grower in the Chicago district decided to make a real test of this method.

Fred Pesche, who is one of the most progressive growers around Chicago and who operates greenhouses at Des Plaines, planted four one hundred and fifty foot beds in a cloth house between May 1st and 10th of Peter Fisher and White Peter Fisher.

These cuttings were rooted in December and early January, placed in wooden plant bands and planted from them directly in the cloth house.

Cutting flowers started on July 20th. The size of the flowers and the length and quality of the stem is equal to indoor grown winter stock. In spite of an extra early frost in the Chicago area that checked the growth of the plants and reduced the number of flowers that would have been cut, Fred Pesche averaged over four blooms per plant. These flowers were sent to the Chicago wholesale market and also used in his extensive retail business. In order to secure a successful crop of flower before frost, cuttings must be taken as early as possible; these must be grown on, without a check so that there is a maximum number of shoots that will flower before fall.

GROWER TALKS

BY

GEO. J. BALL

NOVEMBER
1942



The wholesale growing of pot mums is a specialty with Johnson and Bergholt (Green Mill Gardens) Chicago. With such compact plants and clean foliage to the ground, we easily understood why they had no plants in flower on hand for our photographer. 4-5 cuttings are used in the foreground pots. Most of the planting was done in July.

This Issue . . .

November Notes

Next Easter—Stocks—Clarkia—Hyacinth Flowered Candytuft—Easter Lilies—Obconica Primulas—Acroclinium—Larkspur—Fall Plowing—Grevillea Robusta—Shamrock—Floriculture in Oklahoma—Cherries—Information Please.

Why Give Up Our Meetings • More on Our Rose Trials • Soil Testing in Commercial Greenhouses • About Root Promoting Substances • Carnation Production Summary • Babson on "Hedges Against Inflation" • "Northern Michigan" Meet • A Letter from Vic • We're in the Army Now.

Published First of Each Month by

GEO. J. BALL, Inc., WEST CHICAGO, ILL.

Volume 6, No. 7 Price 40c one year, or 75c two years November, 1942

Above is a page from our monthly publication "Grower Talks." We try to make this of service by suggesting crops that should be started for each month of issue. Also travel and other notes of interest to growers.